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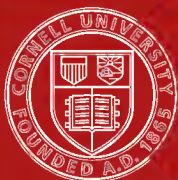
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SCHOOL ADMINISTRATION AND SCHOOL REPORTS

BY

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INTRODUCTION

THE schools must have leadership. By common consent the superintendent of schools is the official leader of the educational activities of the public-school system, and also the most influential factor in shaping public educational opinion. Every superintendent of schools accordingly must have a clearly defined educational policy and an administrative policy equally clear and defined. It goes without saying also that he must be able to justify both his educational doctrine and his administrative and supervisory policy. The present volume is intended, as far as it goes, to help the superintendent of schools, and other persons who are charged with the responsibility of providing good schools and school systems for the public, to formulate and justify their opinions and procedure. It is hoped, therefore, that the book will be of some use to principals and teachers as well as to superintendents, and also to members of boards of education and other school officials.

The several essays of which the book consists were written at different times and of course under different circumstances. Most of them have been published in educational periodicals and in other

journals. They are brought together here because taken together they have the general purpose expressed in the preceding paragraph. Readers who are sufficiently interested in the book to read it through will find some repetitions in it. These repetitions have been allowed to remain because they are found in different settings and hence deal with the subject under discussion from somewhat different points of view. Two or three of the essays can hardly be classified as material from the field of school administration. They are, however, included in the book because they have been frequently called for by correspondents, and because they seem to the writer to suggest studies which any superintendent or principal might well desire to promote.

In accordance with the general purpose of the book, the first essay deals with the "Meaning of Education." This essay endeavors to outline specifically, though in general terms, the necessary educational doctrine of a superintendent of public schools in a democratic society like ours, and it suggests also in outline the different kinds of schools which the conception of education defined in the essay requires for its embodiment in practice. In other words, the first essay attempts to outline briefly educational opportunity in relation to contemporary educational needs.

The nature of the second essay is defined in its title, "Some Principles of School Administration." This essay was originally read at the meeting of the Department of Superintendence of the National Education Association in 1913. It attempts to set forth in a brief, but it is hoped in a definite, way certain fundamental principles which every superintendent who seeks to define his administrative policy needs to assimilate.

The third essay deals with "Town and City School Reports, More Particularly Superintendents' Reports," and aims to achieve two distinct but related purposes; first, to show the unsatisfactory character of most school reports as they are; and second, to suggest definite ways of improving them. Much uncertainty undoubtedly exists in the minds of superintendents concerning the aims, scope, and method of the reports which they are required to submit from time to time for the information of the school board, the teaching staff, and the public. This essay seeks to define these important elements of school reports, and the writer hopes that it will be found of service in the field which it covers. It was read at the meeting of Section L, A.A.A.S. in December, 1915 (Chairman's address), and was printed in *School and Society* for January 29 and February 16, 1916.

These three essays specifically embody the pur-

pose of the entire book, and the reader will have no difficulty in recognizing that they are directly concerned with the problem which the superintendent or principal must deal with in his endeavor to attain the resources and the leadership which is demanded of him as an educational organizer, director, and supervisor. The remaining essays of the book deal with particular aspects of the educational field which the superintendent must traverse.

The next essay, "Testing the Efficiency of the Public Schools," is an attempt to formulate for the superintendent certain questions which must be satisfactorily answered in any endeavor to determine whether the school system under his direction is reasonably efficient. This essay was read at a conference of mayors and other officials of New York State who were interested in educational administration as well as other phases of municipal affairs, and printed in the proceedings of that conference in 1912. The essay makes no pretense of completeness; that is, it does not, of course, seek to formulate all the questions which must be answered when the superintendent seeks to ascertain to what extent his school system is accomplishing the purposes for which it exists. The questions selected are, however, fundamental. They offer the superintendent an opportunity to proceed with a survey of his school system that ought to yield information

essential to one who is earnestly seeking to discover what he is doing, how it is done, and the results achieved. In short, most of the questions in this essay must be asked perennially by the superintendent who is not satisfied merely with general knowledge about the work under his direction, but seeks specific information on fundamental aspects of it, who desires himself to face the situation as it really is, to lead his staff to complete realization of that situation, and to work with them for the improvement of it. Most of the questions naturally cover a number of topics. The eight questions themselves, therefore, if written out in full would be expanded into many times eight. Some of the questions carry their own meaning without further discussion. Several of them, however, because of their contemporary significance, are discussed somewhat fully.

The essay, "Courtis Arithmetic Tests applied to Employees in Business Houses," is the report of a study made jointly by the writer and Mr. Harry D. Gaylord, Secretary of the New England Society of Mathematics Teachers, and printed in *Educational Administration and Supervision* in November, 1917. The study was undertaken to discover by actual measurements whether the results achieved in the fundamental operations in arithmetic in the public schools were commensurate with the demands of

business houses. During the past ten years we have devoted a good deal of attention to measuring the achievements in arithmetic of public-school pupils, but as far as I know no studies were made prior to this one to ascertain whether the achievements of the schools actually met the needs of business. Of course, no finality can be claimed for the results presented in the study, but they are suggestive because they cover about two hundred and fifty employees in one of the largest Boston banks and about the same number of employees in one of the largest of Boston's department stores. If any one is encouraged to carry such a study further, the writer suggests that he consider not only the achievements in arithmetic of eighth-grade pupils, but that he measure the achievements of pupils in commercial courses in the high schools and in schools of commerce, and compare the achievements of such high-school pupils with the scores made by employees in business. The reason for this suggestion is implied in the study itself.

The next essay, "Measuring Results in Learning Latin," is a first attempt in an important field of high-school work. The study was made by graduate students in education working in the writer's Seminary in School Administration. The measurement of educational results is now a commonplace of school supervision, but we have as yet few or no

reliable methods of measuring results achieved by high-school pupils. This study was one of the first, if not the first, attempt at measurement in the field of foreign language study. It is confessedly a first attempt, but judging by the interest which the study has evoked (the article has been called for by correspondents at least once a week since it was published in the *School Review* in 1916), it is included here for whatever value it may have. As already stated, it is confessedly a preliminary study in the field which it covers, but the writer has reason to believe that it has stimulated many similar studies throughout the country.

The essay, "How Far Shall the State Go," was written for the *Michigan Alumnus* at a time when the question whether Michigan University should establish a graduate school was under consideration. The essay is an argument for such a school, and endeavors to point out that the State possessing a State university cannot afford to dispense with the highest educational opportunity which the State can provide, namely, a graduate school of arts and sciences as an integral part of the university. Though not directly concerned with the superintendent's problems, it is included in this volume because of its bearing on a democratic conception of public education, a conception which is certainly of interest to every superintendent.

The next three essays deal with education and educational administration in Germany. The three papers taken together are intended to show to American readers how the German conception of the State influenced educational theory and procedure, and to contrast that theory and procedure with American education. The writer hopes that the readers of these papers will see how impossible the German conception of the State is for the American, and consequently, how impossible the German conception of education is in a democratic society, and also, by certain concrete examples, to what lengths German officialdom has gone in educational practice. These papers were written during the war. The first of them, entitled "The German Example," was printed in the *Boston Daily Advertiser* in October, 1915, in response to a letter from the editor of the *Advertiser* who asked for certain comments on an editorial in his paper printed several days prior to the date given above. The next essay, "German Schools and American Education," was printed, but not under this title, in the *Milwaukee Journal* in August, 1917. The editor had asked for this paper because he wished to print something which would set forth how the German school system is opposed to American ideals and hence unfitted for the United States. The paper entitled "Germany's Kultur" is the revised steno-

graphic report of an address delivered at the Harvard Summer School in the summer of 1918 and printed in the *Boston Herald* of October 13 in that year. It points out why the German people submitted "so abjectly and so patiently to the iron rule of their military caste." This address is intended to show the possibilities of public education in shaping the convictions and the enthusiasms of an entire nation; to show how this was done by Germany; and incidentally to teach the lesson of what could be done by a public-school system equally efficient but based on sound moral principles—such a school system as we endeavor by all the means within our power to develop in the United States.

The final essay, namely, the one on the "Graduate School of Education of Harvard University," describes a new development in the training of leaders in the field of school administration and was printed in the *Harvard Graduates' Magazine* in December, 1919.

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SCHOOL ADMINISTRATION AND SCHOOL REPORTS

I

THE MEANING OF EDUCATION

THE problems of education are problems of social progress on the one hand and of individual development on the other. The problems of social progress which teachers have to solve are, how to conserve, how to improve, and how best to transmit to the oncoming generation the developed resources of society; and the problem of individual development is, how to deal with the individual so that his life may be as full, as rich, and as satisfactory as possible, and at the same time enable and stimulate him to render to society the utmost service of which he is capable.

If that be a fair statement of the problems of education, let us next outline what our social resources are; for with them we must deal from the elementary school through the university, and in the vocational school as well; whether that vocational school be for the training of an artisan, a business executive, a farmer, a merchant, or a professional man.

First of all, society has accumulated spiritual resources, namely, its literature in the broadest sense; history; pure science; art; religion; and the ideals and character of its men and women. These are our ultimate resources; for out of them every other means of discipline and welfare may be developed. The bearing of literature, history, science, art, and religion on ideals and conduct is obvious. The manifold problems solved in the mastery of literature and language, science, history, art are the source of what we call general intelligence; and an appreciative understanding of literature, and of the conduct it portrays, is in itself inspiration and guidance toward worthy living, and promotes the dissemination of common interests and of good mutual understanding among men. It is therefore a perennial influence in the development of mind and character.

But we possess, also, political or institutional resources. We have a government by the people which, with all its faults, we are justified in believing is the nearest approximation to liberty under law yet achieved. It is the result of the efforts of generations of devoted, disinterested men, and of the conflict of selfish interests with disinterested public zeal. The record of both is written in history; and the result is embodied in our actual government. If literature is a record of the ideals of

the race, history endeavors to be a record of its actual experience. To pass in review with understanding and appreciation the successes and failures of races and nations of men, and particularly of our own race and nation, in working out its present worthiest political ideals, and to study its actual government, is to acquire insight into and interest in and respect — and some apprehension — for the development of our institutions; and this insight and interest and apprehension are indispensable to stable and progressive government, and particularly to a democratic government like ours, in city, state, and nation.

We have, moreover, scientific resources hitherto unequalled. If history is the study of our institutional resources — of the world of organized society — pure and applied science give insight into the material world. These sciences not only satisfy the intellectual hunger felt by all men in the presence of the mystery of matter, life, and force, but scientific intelligence furnishes society the indispensable means of providing satisfactorily for its physical existence and welfare.

We have also æsthetic resources — the art of to-day and of all time. The full significance of these resources we are coming to appreciate more and more every year. That civic beauty may be a source of civic pride, and so of civic welfare, we

know. That the charm of the plastic and pictorial arts may uplift and broaden the humblest as well as the most favored citizens our public museums of fine arts, our public concerts, our public recreation centers abundantly prove. Men must play as well as work; and if a part of their recreation can be the serious but exquisite pleasures the fine arts afford, not only individuals but whole communities will profit thereby.

The resources of our civilization are also economic. We have developed an extraordinary system of the production and transportation of the necessities, comforts, and luxuries of life, and equally marvelous means of communication between men; we have in consequence the most complex industrial and social civilization. In order that each one may find his proper place in the world, and so ultimately play his part in it for the progressive welfare of society, in order that he may be an efficient thinker and worker in it, it is highly important that these economic resources be brought within the range of interest and apprehension of the children in our schools of every grade and kind, at every stage of the pupil's development, whether in the school, the college, or the vocational school.

Until recently our economic resources have received scant attention in education; even now they receive much less than they deserve. Industry,

agriculture, and commerce, including the means of transportation and communication, are essential to our contemporary material welfare. The processes, materials, and tools of industry and commerce must be studied to be understood; and this study, if satisfactory, includes not only the study of books, but also the laboratory experience which the workshop, the chamber of commerce, the wharf, the freight depot, the office, the farm or garden, and the store afford. And this, whether we regard education in industry, agriculture, or commerce as education for vocational purposes, or as part of education for life. Whatever one's future vocation may be, education for life certainly means, among other things, such an understanding of industrial, agricultural, and commercial activities, and such appreciation of the problems they present, and such power to deal with these problems, as will enable the pupil to do his share in conserving, improving, and transmitting these activities to the next generation, whether he is himself actively engaged in industry, agriculture, or commerce, or not.

Education for life attempts this, or should attempt it, throughout the pupil's entire school career, so far as his age and stage of development permit. Hence the industrial courses in the schools deserve the fullest encouragement. So do the agri-

cultural courses and the commercial courses, including, of course, the history of industry, commerce, and agriculture; provided they all give insight into the real world of industry, agriculture, and commerce, and not merely vague notions about it. The insight into social welfare such courses afford, especially insight into the meaning and importance of the world's work, and hence their influence on the development of an enlightened vocational purpose — of a career motive — constitute as essential a part of a liberal education as the courses in pure science, history, government, literature, or art. They are, therefore, properly included among the means of promoting the preservation and development of our spiritual resources, that term being used, of course, in its broadest sense.

Further, society possesses physical resources — the physical health and vigor of its people; and we have come to feel that none of our resources are more important than these. Quite apart from the misery poor health usually entails, it is clear that the world's work can be done best, and its worthy pleasures fairly enjoyed, only by people who are sturdy in body as well as mind. Drainage, water supply, clean cities, protection against contagious disease, building regulations, pure-food regulations and inspection, gymnasiums, parks, playgrounds, attest the nature and scope of the measures taken

by society to guard and promote the physical health and vigor of its people. Hence the instruction in hygiene, and the recent important development of physical education in schools and colleges, our school nurses, school physicians, medical inspection, open-air schools, and the rapidly growing provision for adequate playgrounds throughout the country. Long neglected in modern education, the physical resources of society are now receiving a growing share of the attention their great importance demands.

But society needs efficient *workers*, as well as sturdy men and women, who can appreciate and deal intelligently with its interests and problems as social resources. To preserve and improve those resources, the intelligence and skill of workers in the homes, shops, factories, stores, on farms, railways, and in other producing and distributing activities are indispensable. Vocational efficiency in the workers themselves is an indispensable condition of social progress. It is now apparent that our country's economic conditions make the development of this vocational efficiency — working intelligence and skill — increasingly difficult, and often impossible of acquisition in the vocations themselves. The specialization, the often minute division of labor in them, tends to narrow the range of the worker's efficiency and to reduce to

a minimum the exercise of intelligence in carrying on that work; that is, tends to make that work as mechanical as possible. Hence the danger of diminishing interest in work and progressive decline in the worker's possibilities of general as well as special efficiency. And this is, of course, a menace to the progressive development of our social interests. Accordingly, since the vocations themselves no longer provide satisfactory opportunity or vocational efficiency, it has become apparent that several grades and kinds of vocational schools are needed.

Hence the meaning of public education in a democratic country like ours may be briefly summarized as follows: ¹

Public education is a social force. As such it aims at social welfare and betterment, and at the fullest development of which each individual is capable.

Hence it aims to preserve, improve, and transmit to the oncoming generation the resources of society and to develop in each individual a just appreciation of those resources and of the problems social progress involves, and general and specific social efficiency. General social efficiency means social intelligence and the power to deal effectively with

¹ This statement of the aims of public education in a democratic society is repeated and extended in the next essay, pp. 15 ff.

social problems. Specific social efficiency means vocational efficiency, or efficiency in a particular calling. At the same time public education aims to arouse and develop all the worthy interests and corresponding powers of each individual so far as his ability and stage of development permit. Thus only can his life as an individual be as full and as rich as possible.

Finally, public education aims at the cultivation of coöperation and good-will among men, not so much through formulated precepts as through a kindly but firm discipline that gradually substitutes self-direction and self-initiative for external restraint and guidance; and leads progressively to habits of achievement commensurate with ability and opportunity.

II

SOME PRINCIPLES OF SCHOOL ADMINISTRATION

IN 1902 I had the honor of addressing this Association¹ on the subject, "Obstacles to Educational Progress." That address was intended to direct your attention to the fact that progress in education depends, first, on the periodic organization of educational doctrine or theory by those whose business it is to have a well-defined educational theory — superintendents of schools, among others; and second, on the perennial organization or collective appraisal of educational experience (results) by those whose business it is to know just what results are achieved — superintendents of schools, among others. I maintained at that time that neither the organization of educational theory nor the organization of educational experience was attempted by any of us "educators" in any comprehensive or satisfactory fashion; that every superintendent was a law unto himself in these matters; and that because individual opinion and unappraised individual experience determined educational procedure, and these could

¹ The Department of Superintendence of the National Education Association.

be successfully ignored or opposed by other superintendents or by laymen, the guidance we needed for steady progress in education was lacking.

These propositions were apparently assented to. At least, a Committee of Nine (afterward increased to eleven) was appointed toward the close of the session of 1902, the duties of which were to formulate the aims or principles underlying the contemporary provision for and tendencies in American education. Though not a member of that committee during the first year of its existence, I ultimately became its chairman. The committee set about its task seriously, but it failed to secure from the money-appropriating officers of the National Education Association the funds needed for its purposes, and, after a year or two of more or less ineffectual effort, it passed out of existence, "unwept, unhonored, and unsung."

Nevertheless, the propositions put before you at that time are still sound. Indeed, the subject of this afternoon's session shows that we are now asking the same question we asked then, only more insistently, "*Ubinam gentium sumus?*" or, with apologies to Cicero, "Where are we at?" What progress we have made toward getting the answer to the question consists chiefly in a more complete and more frank recognition that the question imperatively demands an answer; that the more imper-

fectly and provisionally we are now prepared to answer it, the more necessity there is for attacking it persistently, until the margin between professional or technical information and mere opinion is progressively increased; until we can show any thoughtful person just what we are aiming at and what we are achieving.

The reason why laymen in education — school-board members, or newspaper men, for example — often find it easy to-day, as they found it easy in 1902, to advocate successfully questionable educational undertakings, or to oppose with equal success promising undertakings or fairly well-established practices, is that the margin between technical information and lay opinion is still so narrow. The only way to combat successfully mistaken common sense as applied to educational affairs is to meet it with uncommon sense in the same field — with technical information the validity of which is indisputable. Hence we now seek to confirm or refute educational opinion by the measured results of educational experience. We have come to see clearly that unless the validity of educational opinion is established by verifiable data which any technically informed person can appeal to, we are practically helpless. As in engineering or in medicine, our practical procedure can inspire confidence only so far as it rests on objectively established truth. The

progress we have made since 1902 can be stated in another way. We are no longer disputing whether education has a scientific basis; we are trying to find that basis.

This last statement summarizes the great change that has taken place during the last ten years in the attitude of progressive workers in the field of education throughout the world. It is a promising change. Authoritative or dogmatic control in education is going the way of mere authority and dogma in human affairs generally. They cannot survive unless they can experimentally establish their validity as instruments for promoting the material and spiritual welfare of mankind. We must face the fact, however, that our promising contemporary investigations and experiments have not yet reached the stage of establishing objective validity for educational procedure to any considerable extent. Exact measurement in education, the necessary basis of a science of education, is only in its beginnings; but those beginnings are real. If, in spite of what I have just said, I have accepted the task of presenting for your consideration principles underlying what the program calls "Improving School Systems by Scientific Management," it will be understood, I trust, that I cherish no illusions concerning the ultimate worth of my present endeavor.

I know that the principles I am about to offer for

your consideration are not all-embracing; and I am far from claiming that they possess scientific validity. Nor do I claim that they are new. Nevertheless I do not hesitate to offer them, so far as they go, for what they are worth. They are scientific so far as they represent a serious attempt at generalization from contemporary procedure in progressive school systems; and hence they are at least definite hypotheses, the validity or the falsity of which can be established by carefully collected and well-organized future experience.

The efficient management of a public-school system depends on the following conditions:

1. A clear conception on the part of all concerned with its work of the purposes for which the school system exists — of its aims.
2. A clear conception of the difference between the functions of the board of education and those of its staff, and actual differentiation between them in practice; that is, centralization of authority and responsibility for: (A) effective lay control in the board; (B) business and professional management in the board's staff of employees.
3. Complete accountability of the board to the people for the work done and the money expended under its direction.
4. A general manager and executive for the whole enterprise appointed by the board, whose authority is commensurate with his responsibility — the city superintendent of schools.

5. A competent staff of employees for the educational activities and for the business affairs of the school system directly responsible to the general manager.
6. Complete accountability of the general manager and through him of the staff to the board of education for the proper performance of the duties with which they are charged.
7. Habitual and well-organized self-examination within the school system; including adequate objective appraisal by the staff of results achieved, and well-conducted experiments to confirm or refute educational opinion within and without the school system.
8. Coöperation under leadership throughout the school system itself, and of the school system and the community.

These conditions I now intend to discuss in order, but limitations of time and space obviously permit only brief consideration of any of them. My discussion is limited also to the educational aspects of a school system, both for the reason just stated, and because the conditions of efficient business management in school affairs will be discussed, I understand, by others.

AIMS

To say that an efficient public-school system must be based on definite aims is to state an obvious truth. Yet few persons conversant with school management will assert that the actual formulation

of such aims and the clear conception of them that such formulation necessitates are common among superintendents and school officials. Accordingly I venture such a formulation. It is based on the procedure of progressive school systems throughout the country.

The aims of a public-school system in a democratic country like ours grow naturally out of our conception of the meaning of public education. That conception can be stated, in general terms, in a few paragraphs.

Public education is a social force. As such, it aims at social welfare and betterment. It is also the means of individual development — the fullest development (self-realization) of which each individual is capable.

As a social force, public education aims to preserve, improve, and transmit the resources of society to the oncoming generation, and to develop in each individual a just appreciation of those resources, and general and specific social efficiency. General social efficiency means social intelligence and the power to deal effectively with social problems. Specific social efficiency means vocational efficiency, or efficiency in a particular calling.

As a means of individual development, public education takes account of the nature of individuals and of the circumstances of their lives. It supplies the

means of promoting their normal development as socialized human beings. It aims to arouse and develop all the worthy interests and corresponding powers of each individual, so far as his ability and stage of development permit, in order that his life as an individual may be as full and rich as possible, and that no artificial obstacles may stand in the way of his spiritual and material advancement; and to enable him to realize that the real measure of his worth as an individual is the service he renders in promoting the spiritual and material interests of his fellow man. Hence:

1. Public education should train efficient citizens — men and women who recognize and appreciate the common interests of our democratic society and are able to promote their progressive development. These interests are spiritual (intellectual, moral, æsthetic), hygienic, economic, and civic. They are also religious, but since experience has shown that religious interests are inseparable from ecclesiastical interests, and since society has an institution for promoting both at once — the church — and since experience has shown that ecclesiastical interests are divisive and not unifying influences in society, a democratic society like ours wisely delegates the preservation and transmission of religious interests to the church, and insists on the complete separation of church and state.

2. Public education should strive gradually to emancipate each pupil from external restraint and guidance, and thus render him self-directing — intellectually, morally, and physically stable; alert, vigorous, and active. Together with the instruction public education offers, it should, therefore, insist throughout on discipline that is wise, kindly, and firm, including appropriate punishment when needed — a discipline that insists on progressive conformity of conduct to insight, including habits of steady application and reasonable achievement.

3. Public education should endeavor to prepare each pupil to make the best use of his leisure as well as of his working hours. Satisfactory diversions and good recreative habits are important for both the individual and society. Without disparaging harmless diversions and amusements, public education should, therefore, strive to develop an appreciation of and a demand for the serious pleasures our civilization affords.

4. Public education should strive to render each pupil economically intelligent and efficient. It should direct each pupil's attention to a vocation to which he may reasonably aspire; that is, every pupil should be led gradually to realize that a suitable vocation, accessible to him and adapted to him, is indispensable to a useful and happy life. As he approaches the end of his school career, whatever his

age may be, he should come to see that his vocation will be not only the means of satisfying his personal wants and ambitions, but because it is the chief means of establishing significant relations between himself and his fellow-men, it is also the source of such public service as he is capable of and may be called upon to render. Public education should, therefore, provide for the development of vocational purposes based on vocational enlightenment (vocational guidance); and it should offer each pupil appropriate training for the vocation of his choice.

Public-school systems must therefore be so constituted as to provide adequately: first, the means of appropriate, and, so far as possible, complete general development — self-discovery and self-realization, and preparation for general social service for every pupil; and second, various kinds of vocational training adapted to the needs, tastes, and future callings of all pupils who pass at once from school to their life-work, and, for those who wish to improve themselves after they have gone to work; preparation for specific social service — preparation for usefulness in a vocation.

They must therefore provide:

I. The elements of general culture, comprising an insight into, appreciation of, and power to deal with, the recorded ideals and experience of the race; and all worthy interests of contemporary life, so far as

they can be rendered interesting, intelligible, and accessible to children and youth of school age; that is to say, the school program, the program of studies must cover:

- (a) The school arts — reading, writing, and arithmetic.
- (b) Language and literature (modern and ancient).
- (c) History, government, and economics.
- (d) Art (pictorial and plastic art, constructive art, and music).
- (e) Mathematics.
- (f) Natural science.
- (g) Manual arts and domestic arts.
- (h) Physical education, including physical training and athletics.
- (i) Vocational guidance.

For these studies, we must have schools of different types, as follows:

- (1) Kindergartens.
- (2) Elementary schools, with differentiated upper grades, (junior high schools) and well articulated with the high school.
- (3) High schools, having as wide a range of electives, administered under wise guidance, as possible.
- (4) Evening schools — both elementary schools and high schools.
- (5) Day continuation schools of various grades and kinds for employed pupils fourteen to eighteen or twenty years of age.

II. Vocational training, training for specific social service, at the upper end of the elementary school,

and in industrial and commercial schools, whether called secondary schools or not, as follows:

- (a) Day vocational schools for normal pupils over fourteen years of age, whether they have completed an eight years' elementary-school course or not, and who will not go to a high school.
- (b) Day coöperative and continuation schools for pupils fourteen to eighteen years of age who cannot afford or will not take the time to attend a full time vocational school.
- (c) Evening continuation schools for pupils over eighteen years of age who are at work during the day-time.
- (d) Vocational high schools — vocational schools of secondary grade.
 - (1) High schools of commerce.
 - (2) High schools of practical arts (technical high schools).
 - (3) Agricultural high schools.
 - (4) Or well-organized separate departments of (1), (2), and (3) for vocational instruction in general high schools.

III. But the American people are not satisfied with schools for normal children only. They acknowledge their obligation to do all that can be done for exceptional children as well; hence they provide also schools or classes for:

- (a) Cripples.
- (b) Anemic and tubercular children.
- (c) Incurrigibles and truants.

- (d) Blind children.
- (e) Deaf children.
- (f) Mentally defective children.

The extent to which a school system provides for the realization of these aims is a measure of its efficiency so far as the educational opportunities it affords are concerned; that is, is a measure of the adequacy of educational opportunities as compared with educational needs.

CENTRALIZATION OF AUTHORITY AND RESPONSIBILITY FOR EFFECTIVE LAY CONTROL IN BOARDS OF EDUCATION

This depends on small boards — boards having less than ten members. The tendency towards small boards is now so well established and the results following this tendency give such general satisfaction that this condition of efficient management needs no discussion. The question whether such boards should be paid or unpaid is, however, still agitated, and sometimes vigorously. Considering our limited experience with paid boards having clearly defined functions differentiated by law or otherwise from the functions of the staff, this question must be regarded as unsettled. Nevertheless the well-known theoretical objections that paid boards — that is, boards whose members are paid to give all their time to school-board service —

would inevitably confuse lay control with professional and executive management; that such boards, whether the salaries are large or small, would attract undesirable members and make it difficult if not impossible to secure the most desirable; and finally, that it is neither necessary nor desirable that board members should give their entire time to the service, even in the largest cities — these objections to paid boards are cogent, their validity is almost self-evident, and justify the widespread and strong disinclination to experiment with paid boards.¹

Efficient management implies a clear conception throughout the system of the nature, scope, and limits of the functions of each branch of the service. Hence a clear statement of the functions of the board should be found in the education law, including the charter; and thoroughgoing study of these functions by board members is imperative. These functions are: (a) The appointment of a general manager, and through him of a competent staff of employees for the business affairs, and for the educational affairs of the school system. (Inasmuch as

¹ "The Board will, in the long run, become of the same type as the persons who press for membership in it. There has never been any difficulty in getting the best men and women for this service. The difficulties have come from the failure of the appointing power to look for the best." (Brief of the Public Education Association on the Education chapter of the proposed charter for the city of New York, August 14, 1911.)

the school system exists for educational purposes, the general manager of the whole enterprise should be an educator; and because the city superintendent should be the responsible head of the educational activities of the school system, the general manager should be the city superintendent of schools.) (b) Deciding general policies by requiring, hearing, and criticizing reports from its staff of employees concerning business and educational aims, means, methods, and results. (c) Delegating all executive functions whether business or educational to the staff of employees. Such delegation of functions makes standing subcommittees of the board unnecessary, and they should not exist. To say nothing of other objections to standing committees of the board, such as confusion or conflict of the duties assigned to them, and dispersion of the board's responsibilities, when the board assigns to a subcommittee or to itself the performance of technical or executive functions, it usually attempts the impossible because neither the board nor its subcommittee possesses either the qualifications or the time required. Moreover, while attempting the impossible, the board also loses sight of the important function just referred to — the duty of deciding general policies, and seeing that its deliberate judgments on those policies are effectively carried out. The performance of this duty demands all the time

and requires all the practical wisdom a board can bring to bear on its task. Together with complete accountability to the people, it constitutes the supreme duty of the board as the representative of the people in the management of their educational affairs. The staff, under the direction of the superintendent, as coördinator and general manager of the board's affairs, not the board itself, or a subcommittee of the board, has the time and should have the special qualifications for formulating policies, investigating proposals, carrying out the decisions reached by the board, and reporting on the results achieved. That is what the staff is for. (d) Complete accountability to the people in respect to both the financial affairs and the educational affairs of the school system. Financial accountability covers both budget estimates and actual expenditures for each activity authorized by the board. Careful making of budget estimates based on recorded, incontestable, and well-organized data (statistics of past experience and contemporary conditions), and equally carefully prepared and classified exhibits of expenditures are imperative. Nothing is more subversive of efficient management than inadequate funds and insufficient control of the funds required for the work to be done. Both sufficient money and the control of it when secured depend on a convincing statement of real needs and of actual necessary

expenditures. There is no other way to minimize the inevitable and well-nigh universal difficulty of securing the money needed for schools.

Accountability in respect to the educational affairs of the school system covers: (1) adequate provision for the educational needs of the community, as outlined near the beginning of this paper; and (2) the success actually and progressively* achieved by the school system in educating all the children of the city in accordance with their capacities and needs. This success is measured by its ability to hold all children exclusive of the mentally defective in elementary schools, vocational schools, and high schools, beyond the upper limit of the compulsory attendance age; the proportion of such pupils of normal age completing or failing to complete a course of study in these schools; the efficiency of the compulsory attendance service in preventing as well as curing irregularity of attendance and truancy; and its success in discovering, segregating, grading, and caring for mentally defective children of school age.

Accountability, both financial and educational, cannot be satisfactorily discharged without brief, compact, adequate, and perfectly lucid statistical summaries of the facts reported on. That such statistical summaries are worthless unless they are truthful and easily interpreted not only by members of the board but also by any intelligent person

who considers them seriously goes without saying. That school statistics now often conceal rather than reveal the facts is a serious handicap to efficient educational management. That school statistics, like other statistics, may be misused by designing persons is also true. Nevertheless accurate and readily interpretable school statistics constitute one of the most valuable means of self-examination a school system can use; and self-examination with a view to learning and setting forth the truth is a very important step toward the progressive improvement of school systems, that is, toward efficient management.

Finally, effective lay control by the board of education requires the complete independence of the board of education from the city government. The idea that boards of education are now not local but State boards, although elected by local voters or appointed by local officials, and listed among local departments, is not new. It seems new to some persons, however, so new that in the city of New York it has recently been called preposterous. Yet the plain intent of the law in New York as in other States is to separate school affairs from all other municipal affairs. Numerous examples could be cited, but two or three will suffice. No less a person than the present mayor ¹ of the city of New York

¹ Mayor Gaynor.

when justice of the Supreme Court rendered the following decision:

It [the Brooklyn Board of Education] is not a part of the corporation of the city of Brooklyn, but is itself a local school corporation, like every board of school district trustees throughout the State, and is like every such board an integral part of the general school system of the State. It is a State and not a city agency, doing State and not city work and functions. Education is not city, village, county, or town business. It is a matter belonging to the State Government. From its comprehensive foundation by Chapter 75, of the Laws of 1795, down to the recent codification of our school laws, our State system of education has remained a consistent whole.

And the Court of Appeals of the same State has declared:

All this results from the settled policy of the State from an early date to divorce the business of public education from all other municipal interest or business, and to take charge of it as a peculiar and separate function through agents of its own selection, and immediately subject and responsive to its own control.

The same principle is conspicuous in the new school code of Pennsylvania. Again, the boards of education in St. Louis and Kansas City are not subject to their respective city governments; they are independent tax-assessing and -spending bodies.

The intention of the people in some States as regards the independence of the public-school system

in relation to the city government is therefore plain; and a strong tendency in that direction is in evidence throughout the country. What is too often lacking is clear knowledge of this intention and a just appreciation of its significance on the part of boards of education, and, on occasion, lack of courage and persistent effort on the part of boards of education to see that this intention is carried out. Until this intention is universally recognized and carried into effect — that is, until boards of education are everywhere independent of the city hall — school systems cannot expect to escape the baneful influence of the politically organized and controlled forces of city governments — forces directed by city boards or by persons whose chief real interests lie elsewhere than in the education of the children. Complete independence of boards of education from city governments is accordingly a fundamental condition of effective lay control of public-school systems by such boards, and hence of efficient management.

CENTRALIZATION OF AUTHORITY AND RESPONSIBILITY FOR BUSINESS AND PROFESSIONAL MANAGEMENT IN THE STAFF

Efficient management of the school system requires, as we have seen, the centralization of responsibility for all executive details, including pro-

fessional management, in the staff, with the city superintendent at the head as general manager. Such executive and professional management requires:

Constant, alert, and courageous endeavor to secure for the people the education their children should have; that is, *to secure the schools needed for the appropriate education of all the children.*

Adequate and appropriate means of determining the qualifications of well-trained and otherwise satisfactory workers for the educational staff, and for the business staff of the school system.

The appointment of duly qualified members of the staff through the general manager, and their assignment to duty, including transfers, by him. No preference should be shown for home candidates as such in any appointments.

Promoting the progressive usefulness of the staff, and insuring their tenure of office during efficiency and good behavior, and removing unsatisfactory members from the service.

Appropriate promotion of members of the staff to posts of increased responsibility and emolument. But appointments to such posts should not be limited to persons already members of the staff.

Retiring satisfactory members of the staff when they become disabled or superannuated, with suitable retiring allowances.

Organizing the staff for the performance of the several functions to be discharged.

Supervising the performance of these functions, and reporting thereon to the board.

Promoting coöperation under leadership throughout the school system itself, as well as promoting coöperation of the school system with the community.

Hence, as general manager of the board's affairs, it is the duty of the city superintendent, with the help of the staff: (a) To show the board of education what schools and how many of each kind are required and where they should be built to realize the educational aims for which the school system exists. The people want good schools, but not being technically conversant with the problems involved cannot themselves plan the details of such schools; nor do they know what material equipment — buildings, grounds, and teaching apparatus — the schools require, nor where such schools should be located. (b) To secure a properly qualified supervisory force for the organization, administration, and supervision of the schools. (c) To secure an efficient teaching corps for all the schools; and to recommend the salaries to be paid them, together with the conditions for tenure, promotion, and retirement with or without retiring allowances. (d) To formulate courses of study for the several schools, together with suggestions as to methods of teaching. (e) To select textbooks, apparatus, and all other teaching resources. (f) To define standards of achievement as to quality and quantity of work done by pupils in harmony with varying individual and local needs

throughout the school system. (*g*) To define similar standards of achievement for the work done by teachers and supervisory officers. (*h*) To carry on habitual, well-organized self-examination within the school system, by means of (1) carefully collected and properly organized educational statistics showing progressively what educational results are actually achieved in every branch of the service; (2) investigation involving experimental verification or refutation of educational opinion within and without the school system, or at least a search for the method of such objective appraisal of educational opinion and of the results achieved; and (3) a system of office records for the educational affairs of the school system that can be made to yield to the staff, to the board, and to the public, truthful, clear, prompt, and adequate information on any aspect of the work — to yield this information at any time, but especially in the annual report of the superintendent and the board. (*i*) To secure a staff of properly qualified officers and employees for the business affairs of the school system, that is, a staff to purchase sites, build buildings, and equip them and care for them properly when built; to purchase all kinds of supplies and to secure their prompt distribution to the schools, and an adequate and properly qualified office force. (*j*) To provide a system of records and accounts for the business

affairs of the school system as for its educational affairs. Time will not permit the discussion of these factors of efficient management by the staff. But I must deal briefly with at least two of them. Let us first consider habitual self-examination. This means a study of their functions, and of their performances by the board and by the staff.

Boards, on the whole, are not much given to this form of self-examination. It should be cultivated. Without it we shall continue to have boards, whether large or small, who have no conception of what their functions are, or, what is even worse, false conceptions of those functions. If boards are without adequate conceptions of their duties, we cannot expect them to develop the means and methods of satisfying themselves and the public that these functions are adequately discharged. If they have false conceptions of their functions, confusion in school affairs, and mismanagement, or inefficient management, are inevitable. It is, therefore, their first duty to study their functions, in order to attain clear conceptions of what those functions really are; next to endeavor unceasingly to develop the methods of assuring themselves that their proper functions are satisfactorily discharged; and finally, to show the public that they are both thoroughly alive to their real duties and that these duties are performed.

The only force that can bring about this indispensable factor of efficient management is informed, aroused, and insistent public opinion. *This public opinion it is the duty and privilege of the superintendents to cultivate by every means in their power.* Neglect of this duty by superintendents is one of the most serious violations of efficient management. To discharge this duty requires a professional consciousness, that springs from the possession of professional resources, and the sense of responsibility which is its natural concomitant — a professional consciousness and a sense of responsibility akin to those felt by physicians, lawyers, and engineers, in their spheres of activity. That it also requires tact and courage goes without saying.

Habitual and well-organized self-examination within the staff requires a perennial study of their functions and performances by the members of the staff under the leadership of the superintendent. This means the attainment of a clear and adequate conception, on the part of the supervisory staff — the city superintendent, directors, and principals — of what constructive supervision really means; that is, a serious attempt to develop a potentially productive theory of supervision which the supervisory force works out for itself, and never-ending endeavor to find appropriate, and so far as possible, objective methods of testing the results of supervision in prac-

tice. It means similar continuous study of their several functions on the part of the rank and file of the staff under the leadership of their immediate superiors; progressive cultivation of willingness on the part of all concerned to look upon the results of their work in the light of objective appraisal of those results, as measured by all the means of measuring educational results now available and other means as fast as they become available; and especially, unshrinking facing of the results of such measurement whatever they are.

Unless and until such self-examination within the staff becomes the rule in city-school systems throughout the country, we shall never have the professional resources and the professional consciousness born of them on which professional leadership and working efficiency — that is, efficient management and satisfactory results — in the last analysis depend. Until such self-examination becomes habitual, school systems will certainly resort to outside agencies to tell them how they stand. If the outside agency is a good one, the results to the school system may be correspondingly good. The danger is, however, that because the public has not yet learned to discriminate between educational specialists and plausible charlatans, the public may choose unwisely, and the school system may thus become the prey of the self-seeker and the charla-

tan. The duty of the superintendents in relation to this fundamental element of efficient management is plain.

The second condition of efficient management to which I must refer briefly, at least, is coöperation under leadership throughout the staff and of the staff with the community. I have already pointed out that as an executive and administrator the authority of the superintendent must be completely commensurate with his responsibilities. To exercise this authority wisely, to safeguard the initiative and secure the coöperation of his staff, he must know how to delegate authority and responsibility to his subordinates and to give them the same freedom within their spheres of activity that he possesses or should possess in his own. Unfortunately in school management, we are sometimes, at present, confronted with the anomalous situation of a superintendent who accepts the heavy responsibilities of his office without any guaranty, either expressed or implied, that he shall also possess the authority that should accompany them. The consequence is that he becomes the mere instrument, and sometimes simply the hireling of the board. Under such circumstances he has, of course, no authority to delegate. Efficient management, however, requires that he shall have. Delegation of authority by the superintendent; and accountability and freedom

of action among his subordinates is the means of securing administrative coöperation in his staff.

For efficient management coöperation is even more important in the field of supervision. Administrative control will keep the schools going, but it will not keep the schools going so as to guarantee results of high value. To secure such results efficient and expert supervision is indispensable.

In the great school systems, the superintendent cannot himself participate in the details of supervision, as he can and should in the smaller systems. In the great school systems, he is too remote from those details to supply the personal touch that actual supervision requires. In either case, however, he can best fulfill his supervisory functions with the aid of an officially constituted supervisory council. He should have two such councils when the system is large — one for business affairs, and one for educational affairs. This council should consist of representatives of his entire staff, and should be the official channel of communication between the superintendent and the staff. This channel should be kept open and in use, and to it should be committed all questions of policy and procedure — questions dealing with the aims, means, methods, and results of the work of the school system; and no measures dealing with these matters should be adopted without the approval of the council, after

full deliberation. Such a council could make effective the combined wisdom of the entire staff, and this is essential to efficient management. It should invite criticisms and suggestions; and it would obtain them chiefly from those whose criticisms and suggestions are most valuable, namely the thoughtful members of the staff. The staff should understand that criticisms and suggestions are expected from them; and the council should insure careful consideration of them when they are made.

Such a council would thus vitalize all the work. It would tend to eliminate the shams; it would do away with passive or restive compliance with orders from above; and it would substitute initiative and coöperation for bureaucratic control; and *initiative and coöperation under leadership is the secret of good schools and school systems.*

We have found the principles of efficient management of a school system to be:

A clear conception of the purposes for which the school system exists — the work it has to do.

An equally clear conception on the part of all concerned with this work of the nature, scope, and limits of each branch of the service; that is, of the board, and the staff.

Centralization of authority and responsibility for effective lay control in the board; and for professional and business management in the staff.

Complete accountability of the staff to the board and of the board to the people.

Habitual, well-organized self-examination to determine the results actually achieved, including experimental verification or refutation of educational opinion within and without the school system.

A system of clear, adequate, incontestable, and accessible records of the educational results progressively achieved, for the information of the staff, the board, and the public.

A similar system of financial records or accounts for the same purpose.

Coöperation throughout the school system, under the leadership of the superintendent and the supervisory staff, in both the professional and the business affairs; co-operation of these branches of the service with each other and with the teachers; and coöperation of the community with the school system.

III

TOWN AND CITY SCHOOL REPORTS, MORE PARTICULARLY SUPERINTENDENTS' REPORTS ¹

THIS paper is a preliminary study of school reports. It covers twenty-six reports for twenty-five towns and cities in all sections of the United States. The towns and cities were chosen at random from a much larger number — several hundred. The population of the towns and cities chosen varies from about 5000 to more than 300,000. An attempt to classify the contents of school reports ² for these towns and cities is given in Table I.

The material in school reports can be roughly classified under the following main heads: (1) the report of the board; (2) the report of the superintendent; (3) subordinate reports, that is, reports of other supervisory officers and of teachers, of officers and committees of the board other than business officers or committees; (4) reports of business officers and committees; and (5) miscellaneous reports

¹ Address of the vice-president and chairman of Section L, Education, American Association for the Advancement of Science, Columbus, Ohio, December, 1915.

² Towns and cities commonly publish a school report annually.

and items, such as reports of official and unofficial associations of teachers; parents' associations; boy scouts; graduation exercises; dedication exercises — a long list of reports or items, including, among other things, much useless material.

A mere glance at Table I will show that a comprehensive range of subject-matter is treated in most reports, whatever the size of the school system. It is true, of course, that the range of activities discussed in the report of a given city varies from year to year; and that the absence of details concerning certain activities in the report for a particular year does not mean that such details are not found in the report of another year for the same city. But, taken together, the reports represented in the table show fairly well the general scope of contemporary school reports throughout the country.

A few words of explanation concerning Table I are necessary. Columns 1 to 5 explain themselves. Beginning with column 6 the small letters and dashes should be interpreted as follows:

a means embodied entire, or in part, in the superintendent's report as an integral part of his report;

b, printed as a separate document in the superintendent's report, but not over his signature;

c, not incorporated and not used in the superintendent's report, although printed in the same pamphlet;

c', not a part of the superintendent's report, but discussed or, at least, referred to in it;

TABLE I
ANALYSIS OF (26) SCHOOL REPORTS (25 TOWNS AND CITIES)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Approximate population	Total pages in entire report	Approx. no. pp. in Board's rep.	Approx. no. pp. in Supt's rep.	Statement of aim	Rep. of Asst. Supt. One or more	Rep. on results of previous recommendations	Recommendations for improvements or extensions	Rep. of Super- visors: Gen'l. Super. Germ., Phys. Train., Reading, Pen- manship, Dom. Science, Dom. Art, Drawing, and Art, Mu- sic, Man. Tr., Defectives (all kinds), Kin- dergarten, Voc. or Sun- mer Schools	Rep. of H.S. Prin. or Teachers	Rep. of El. Sch. or Inter. Sch. Prin. or Teach.	Rep. of Tr. Sch. and Com. Sch. Off. or Teach.	Rep. of Nor. Sch. or Train. Sch. Off. or Teach.	Rep. of Officers of Bd. of Examin.	Rep. of Div. of Indst. Research	Rep. on Vocational Guidance
A 1914	OS	239	0	239	a	b	a	.. a	One or more	b	b	b	p	p	a p	a
B 1914	U3	92	0	92	..	b	..	..	..	..	..	..	..	..	..	..
C 1914	OS	465	18	395	a	b	..	..	..	..	..	..	..	..	..	..
D 1914	OS	239	0	235	a	b	..	..	..	..	..	..	..	..	..	..
E 1914	U3	112	0	112	a	b	..	..	..	..	..	..	..	..	..	..
F 1914	U3	309	3	287	a	b	..	..	..	..	..	..	..	..	..	..
G 1914	U3	90	7	65	a	..	..	..	..	..	..	..	..	..	..	..
H 1914	U3	326	0	155	a	..	..	..	..	..	..	..	..	..	..	..
I 1913-14	OS	361	29	230	a	..	..	..	..	..	..	..	..	..	..	..
J 1913-14	U3	105	0	35	a	..	..	..	..	..	..	..	..	..	..	..
K 1913-14	U3	43	2	41	a	..	..	..	..	..	..	..	..	..	..	..
L 1913-14	OS	240	0	233	a	..	..	..	..	..	..	..	..	..	..	..
M 1913	U3	127	4	120	a	..	..	..	..	..	..	..	..	..	..	..
N 1914	U3	134	3	110	a	..	..	..	..	..	..	..	..	..	..	..
O 1914	U3	103	0	113	a	..	..	..	..	..	..	..	..	..	..	..
P 1914	U3	93	6	87	a	..	..	..	..	..	..	..	..	..	..	..
Q 1914	U3	142	8	65	a	..	..	..	..	..	..	..	..	..	..	..
R 1913-14	U3	103	10	30	a	..	..	..	..	..	..	..	..	..	..	..
S 1914-15	U3	413	10	370	a	..	..	..	..	..	..	..	..	..	..	..
T Jan., '15	U3	45	0	45	a	..	..	..	..	..	..	..	..	..	..	..
U 1914-15	U3	112	18	94	a	..	..	..	..	..	..	..	..	..	..	..
V 1913	OS	694	18	380	a	..	..	..	..	..	..	..	..	..	..	..
W 1914	U3	191	9	153	a	..	..	..	..	..	..	..	..	..	..	..
X 1914	U3	114	0	114	a	..	..	..	..	..	..	..	..	..	..	..
Y 1914	U3	94	1	5	a	..	..	..	..	..	..	..	..	..	..	..
Z 1912-14	U3	33	0	28	a	..	..	..	..	..	..	..	..	..	..	..

Cities: U3 = under 800,000; OS = over 800,000.

TABLE I (continued)
ANALYSIS OF (26) SCHOOL REPORTS (25 TOWNS AND CITIES)

	18		19		20				Miscellaneous items										84				
	One or more	One or more	One or more	One or more	Statistics, Comp. by years or otherwise	Few or no comparative statistics	Fair to adequate inter. of statistics	Very little or no satisfactory interpre.	Schale of Sal. with or without names of recipients	Courses study	Rules and Reg. of Board	Books and supplies	Teach. Library and Ed. Mus.	Parents' Asso.	Official asso. of teachers	Unofficial asso. of teachers	Pub. by teach's	Program grad. exercises	Names of graduates of year	Boy Scouts	Directly or lists of teach's and other emp'es	Photo-graphs of persons, buildings, grounds, acts, int. architects, plans	
A	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
B	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
C	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
D	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
E	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
F	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
G	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
H	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
I	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
J	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
K	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
L	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
M	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
N	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
O	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
P	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
Q	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
R	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
S	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
T	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
U	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
V	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
W	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
X	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
Y	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c
Z	c	c	c	c	b	b	b	b	c	b	b	b	a	a	b	a	a	b	a	a	b	c	c

d, the city in question employs an officer of the sort named at the head of the column, but the school report contains no report from him for the year under consideration;

x, published in a separate school document;

—, no item of the sort; or no paid officer of the kind indicated at the top of a column is employed in the school system; or the school report gives no information as to whether there is such an officer.

For example, the data in column 7 should be read as follows: The superintendent's report of City *A* contains at least one report of an assistant superintendent; and this assistant superintendent's report (or these reports), though printed as a separate document (or documents) in the superintendent's report, is made a part of the superintendent's report, though not in that portion of the report signed by the superintendent. A similar statement applies also to five other reports, namely, the reports of the superintendents for cities *C*, *E*, *I*, *J*, and *O*. (As a matter of fact, the superintendents' reports for all these cities, except *E* and *J*, contain several such assistant superintendents' reports; and *E* and *J* each contain one.) Further, the data of column 7 show that the report of the superintendent for city *B* embodies entire, or in part, the report of at least one assistant superintendent; and a similar statement applies to the superintendents' reports of cities *L* and *V*. (*B* contains only one such report; *L*, two;

and *V*, several.) Finally, although three cities, namely, *D*, *Q*, and *R*, employ assistant superintendents, no reports by these officers appear in the school report.

The number of school reports in which such subordinate reports are found is seldom important, however; this number varies from year to year. The use made of these subordinate reports or other data by the superintendent is the important thing.

I. THE REPORT OF THE BOARD

Table I shows (column 4) that the board's report, exclusive of the superintendent's report, varies in length from a paragraph or two to several pages. It is usually an introductory general statement. When it enters into details, it deals by preference with the business affairs of the school system, although it occasionally deals also with administrative and educational questions.

For example, the board's report for one of the cities deals with the "New Buildings" provided during the year and the cost of those buildings; "Wider Use of the School Buildings," expressing approval of the policy involved; "Evening Schools," with a suggestion of the wisdom of keeping one or more of them open for a longer period during the year; "Child Labor," an argument for improving the administration of labor certificates; an

investigation of school sites; "Beautifying School Grounds," with emphasis on further progress in the policy already adopted; "New Building Policy," being an argument for a consistent policy of providing adequately for the progressive needs of the city's children.

The board's report for another city — very much smaller than the foregoing — deals almost entirely with the business affairs of the school system. The last three paragraphs, however, go farther. I quote them in full:

The report of the superintendent, in particular, we trust that every one will carefully read. It concerns *your* business, the way *you* are spending *your* money to educate *your* children, and treats impartially of the credits and defects of our system.

We call attention to the fact that these are the views of the superintendent alone, and are published without criticism or endorsement of the committee, as he is so much better qualified to speak that either would be equally futile on our part.

We would merely say in comment that while many of his "anticipations" are our wishes, we do not ourselves anticipate many of these things for years to come, with the exception of further relief at the north end of the town, which we may be compelled to ask for next year.

The report of the board of another city deals with the following topics: "Outlays"; "Growth"; "Changes" — a single paragraph; "Litigation";

"Consolidation" (of several outlying sections to form part of the city school system); "Legislation" (State) affecting the city school system; "Administration" — change in superintendent and enlarged space for administrative offices; "School Survey" of the preceding year — a single paragraph merely reciting the fact that a survey had been made and giving the names of the members of the survey staff; "The Future" — a short paragraph citing in general terms a few items of a progressive policy to be carried out in the immediate future; "The Budget," giving totals of expenditures for the ensuing year. The chairman agrees to the recommendations, but wishes to cut out \$25,000, because he does not think the item for which this money is to be spent is authorized by the laws of the State. The board with the exception of the chairman also recommends a tax levy for a bond issue to build and adequately equip a comprehensive "first unit of a School of Trades." Finally, the report contains a series of votes passed by the board on various business and administrative questions.

It is clear that the taxpayer in the city last referred to who is seeking for light on the question of spending more money for the schools will be somewhat confused by the board's report. Similarly, the citizen of the second city will derive from the board's remarks about the superintendent's "antici-

pations" no clear idea of the board's attitude toward progress; he may even infer from it that the superintendent manifests an intemperate desire for progress, but that the school committee can be relied upon to hold him in check.

The foregoing illustrations may serve to show that just as the length of the board's report (or introduction) varies greatly, so does its value. On occasion, when it clearly and forcibly expresses intelligent lay opinion, it may have an important influence in winning public approval for a progressive educational policy; but, in general, it must be said that the briefer the board's report the better it is; and that, in most cases, a mere statement of the vote making the superintendent's report the board's report is quite sufficient — and best.

This statement must not be interpreted as an attempt to minimize the board's responsibility to the people. Nor does it indicate that the board can safely either ignore or evade the duty of making a satisfactory report to the people. On the contrary, it shows that the board knows how best to perform that duty. It is not the board's duty to make such a report, but to see that it is made. The board itself has neither the time nor the technical knowledge to make such a report, but it should know how to secure such a report from the superintendent. Hence, the board's vote transmitting the superin-

tendent's report as the board's report to the people shows (or perhaps we would better say should show) that the board has required the superintendent to prepare a report; and that after studying the superintendent's report they have found it without or with modifications suggested by them to be the report needed or desired.

Any member of a school board who takes his duties seriously will agree that such a study of the superintendent's report as enables him to vote intelligently on it as the report of the board to the people is a time-consuming, exacting and important duty. Indeed, it may be said, in passing, that next to the selection of the superintendent himself, the most important duty of the board is (or should be) requiring, hearing (or reading), criticizing and assimilating the reports of the superintendent — not merely his annual report, but the reports of his work submitted month by month, and on occasion, oftener. Moreover, since the vote of the board adopting the superintendent's report as the board's report indicates the board's approval of that report, both in substance and in form, the character of that report is, among other things, an indication of the good or bad judgment of the board with respect to the selection of a superintendent, and indeed with respect to the whole educational undertaking entrusted to them by the people.

So much for the report of the board. The remainder of this study will be devoted to a discussion of the superintendent's report.

II. THE SUPERINTENDENT'S REPORT

Since the board's report is apparently intended for the people, it is clear that the superintendent's report is more or less intentionally also intended for the people. I say more or less intentionally because it is not always possible to ascertain from the superintendent's report itself as published just what its purpose is — beyond the obvious general purpose of giving a mass of more or less well-organized information about the schools to any one into whose hands the report may fall. This information ranges all the way from trivial commonplaces or from technical details of school policies, procedure, and results, to abstract discussions of educational questions with much or little — and sometimes no — direct or special application of such discussions to local conditions and needs.

Also it is difficult to make out, in many cases, just what portion of the entire school report the superintendent's report is; for the running title of the pages is often "School Report" (or some similar title) or "Superintendent's Report" in a document of which only a part is signed by the superintendent. Accordingly, for the present study a working defini-

tion of the superintendent's report is needed, and I shall adopt the following: The superintendent's report is (1) that part of the school report signed by the superintendent; and also (2) that part of it ascribed to the superintendent or claimed by him as indicated by the make-up of the entire school report. The figures in columns 3, 4, and 5, Table I, taken together, therefore, indicate fairly well what portion of the entire school report is regarded as pertaining to the affairs immediately under the superintendent's direction as administrative and executive officer. For certain of the cities (*H, J, Q, R, V*) in the table, it appears that the superintendent's report thus defined constitutes only about a third or a half of the entire document.

Since it is impossible within the limits of a single study to deal with all the details of superintendents' reports represented in Table I, I select the following for consideration, touching on some other items only incidentally, and leaving these and still others for fuller consideration on some other occasion. The topics to be considered are:

1. The aims of the superintendent's report. What is the superintendent's report for? And, as subordinate to this main topic, the following:
2. The reports of subordinate educational officers — assistant superintendents; supervisors or directors; principals of high schools, elementary schools, trade

and continuation schools; teachers; and other officers not business officers — what are they for?

3. Business officers' reports — what use is made of them in the superintendent's report?
4. Statistics in the superintendent's report — what are they for?
5. Photographs of buildings of interiors, of persons, or of activities; architects' plans — what are they for?

(1) *Aims of the Superintendent's Report*

Turning to Table I, column 6, we see that 14 (about 54 per cent) of the superintendents make more or less specific statements of the particular aim or aims of their reports. The following quotations illustrate the nature of these statements.

The superintendent of *A* says:

The chief purpose of the present report is to show what the year has brought forth — what "next steps" have been taken, and with what result, what new activities have been or should be introduced, and how the old ones have been or should be modified.

Then follows a topical enumeration of 18 "next steps to be taken" which were proposed in the report of the preceding year, after which he says:

In order to keep this volume in due bounds . . . the superintendent will confine himself in large measure to the consideration of the above matters.

The report itself then fulfills its promise, and presents in clear, terse, non-technical but adequate

terms an orderly discussion of the items named. It is an excellent illustration of what a report intended for the general information of the teaching staff and the public should be.

The superintendent of *D*, after pointing out that the board and all the employees of the school system "hold their positions only that they may serve the people; that they may interpret and may express in action the ideals of the city" then goes on:

What are some of these ideals and how may they be expressed? How may a community use its resources to produce an education that shall make for the highest social, industrial, economic and civic efficiency? In the following pages I shall try to answer some of these questions; to show what has been done, and to indicate what should be the next and succeeding steps in the realization of such a program.

He then refers the reader to the reports of supervisors, principals, and heads of departments for details, and concludes his statement of aims as follows:

I shall use in the body of this report only such features as may be necessary for the more general discussion.

This report, like the foregoing, fulfills its purpose, but its subject-matter is not so well organized; and particularly the reader fails to realize that he is being led progressively through the considerations presented for the sake of the ends in view — the an-

swers to the questions proposed in the first part of the superintendent's statement of aims. If the superintendent of *D* had enumerated the topics to be treated in view of these aims, and also if he had discussed those topics in such a way as to show just how his treatment of each contributes to the end sought, his report would be a much stronger document. As it is, the report is merely a descriptive account of the school system's activities, interesting in themselves, but lacking the cumulative effect of a series of progressive answers to the questions proposed, especially for readers who may not read the entire report — undoubtedly the majority.

What does it mean to undertake to write the annual report of the work in the City Schools of *F* ——?

In the first place it means to give an account of the care, condition, and use of (nearly \$3,000,000, he gives the exact amount) worth of school property.

It means to tell how (more than \$400,000, the exact amount is given) was raised and expended for the support of the schools during the year.

It means to tell something of the 414 people who faithfully served the city as teachers during the year, and who received (more than \$300,000, the exact amount is given) for these services.

It means to tell something of the (more than 16,000, the exact number is given) girls and boys, young men and women, who attended these schools as pupils during the year.

It means to tell something of how these teachers and

pupils lived and studied and worked and hoped and feared and struggled during the year.

It means to tell the thread of a story, full details of which would enter into practically every home in F, and would affect to a greater or less extent practically every one of her one hundred thousand inhabitants.

Unfortunately this report does not meet the expectations aroused by this earnest opening. The disparity between the promise of the beginning and the subject-matter of the report is marked. After the first few pages dealing with the material equipment of the schools and some financial matters of importance, the subject-matter of the report is too miscellaneous and unorganized to justify the promise of the superintendent's description of what his report should be. Perhaps the superintendent himself felt this, for near the end of his own report he says:

In writing this report it has been my purpose to give, in so far as might be possible, an insight into the present progress and the future needs of our schools. These are set forth in much more detail in the reports of the various supervisors of the departments printed in this volume. It is hoped that these will be generally read.

In other words, he has not himself specifically used the subordinate reports referred to in adequate or orderly fashion so as to realize his aim in writing the report; he now throws the burden of such reali-

zation almost completely on the reader by referring him to those subordinate reports. What seems to me the proper use the superintendent should make of subordinate reports will be considered later. At this point I merely desire to point out that in the portion of the school report signed by himself, the superintendent in question has not made either adequate use of those reports or the best use of them so far as he has used them at all.

The superintendent of *G* presents, on the opening page of his report, the following topics with a number of sub-topics under each, and then states his intention of dealing with these topics in order: "Organization of the School Department"; "Important Facts and What They Mean"; "Principal Changes and Improvements"; "Criticisms and Recommendations"; "Things to Think About"; "The — Foundation's Survey"; and a "Summary." The report not only does discuss these topics in order, but it gives at the close of each subdivision a summary of findings and the appropriate recommendations to which they point. One cannot fail to get from this report definite knowledge of the present condition of the schools and what is needed for their progressive improvement. The report is marred by the somewhat sensational phrasing of two important questions printed in large heavy black letters on the *yellow* covering of the pamphlet:

G Schools

Are the schools of *G* a public charity to be supported with as little outlay as possible? Or is the education of our children a safe and profitable enterprise in which we shall invest our public funds?

What kind of education shall *G* buy in 1915?

But apart from this defect and some minor defects of form (questionable and even incorrect English here and there), the report is a good illustration of such a clear and forcible presentation of school facts and the validity of the recommendations to which they give rise, as cannot fail to make a strong impression on every reader.

The superintendent of *H* says:

The details showing the number of pupils, the grades in which they are classified, the progress which they have made in their studies, the expenditures that have been necessary in carrying on the different departments of the schools, and many other items of vital importance to the district are embodied in the statistical tables and departmental reports that are included herewith.

Owing to the existence of certain conditions under which we have labored for the past few years, two or three problems of unusual importance have had to be met.

And he then proceeds to the discussion of these "two or three problems" in some detail — a well-arranged, clear and vigorous report.

The superintendent of *M* for 1913 says:

This report will confine itself to a single issue. Indeed, there seems to be but one issue to-day concerning the *M* schools. That issue, while difficult to solve, is simple to comprehend. It concerns the cost, not the details of expenditure, but the total cost of maintaining the school system. . . . In other words the single issue that has been raised concerning the *M* schools may be briefly stated as follows: . . . the total cost is too great, is more than the city ought to spend for education.

The entire report is devoted to a clear exposition and analysis of the costs of the contemporary educational opportunities provided by *M*, compared with the cost of the much less expensive educational opportunities provided eight years ago. Limited to the exposition of a particular topic, and partly because of that fact, this is one of the best reports I have ever seen.

The superintendent of *M* for 1914 says:

Instead, therefore, of attempting to write a comprehensive report of the present educational activities of *M*, I have decided to present some of the important facts of the work of the schools through special reports prepared by those who are in charge of and directly responsible for results in the various departments.

In passing, it may be said that this is the easiest known method of preparing a superintendent's report. Some further comments on this method — usually a bad method — of preparing a report will be made later on. The method is justified in the

case just cited because the superintendent had only been in charge of the schools a few months when his report was due.

The superintendent of *S* says:

My annual report to the board this year is not so much a record of past achievement as it is a snapshot of what is now doing in the schools — a summary of present conditions and of future needs. With this end in view, I have endeavored briefly to epitomize the yearly reports of the various departments herewith submitted, so that in a few minutes one may learn what they contain;

and he adds, rather naïvely,

however, I strongly urge that when printed the members of the board read them in detail, since they are an interesting résumé of the varied character of the work in the *S* schools.

While some of this superintendent's endeavors to "briefly epitomize" the yearly reports of the various departments are too general and too brief to be of real value to the reader, taken together they nevertheless represent a serious effort on the part of the superintendent to present his own view of the activities of the school system as derived from the reports of his associates and subordinates and from his own observation. He has not merely compiled the reports of his assistants, as some other superintendents have, but he has used them.

The superintendent of *T* says:

Among the activities which have been added to school administration since the beginning of my superintendency I list the following:

After giving the list, he continues:

Details with regard to these activities are given under their respective titles in the following report. These details and the other statistical material have been prepared by the Division of Reference and Research.

This Division has now been in operation one year and amply demonstrates its value to the schools of *T* by the work here presented.

This report throughout shows the application of contemporary scientific methods in school administration and supervision. It is a report based on school facts and not on opinions. It therefore carries conviction to those who are conversant with the method employed. But it is doubtful if many lay readers will take the trouble to assimilate it, and very doubtful, therefore, whether the desire expressed in the report "to place a copy in every home from which children are sent to the public schools" will, if carried out, have the intended effect on the people. The facts shown by such a study of the schools as this report presents, together with the lessons they teach or the recommendations to which they give rise, should be definitely and interestingly stated in non-technical terms in a report intended for the people; and while reference should

be made in such a report to the technical studies on which it is based, those studies themselves should be given in a separate report to the supervisory and teaching staff — to those who are or should become proficient in the scientific study of educational procedure and results.

The superintendent of *U* says:

Last year in my report I suggested that the following facts be determined in order to find out wherein our schools were failing. All these matters are treated in various contributions to this year book, and I have put after each subhead the report and page number where you can find the discussions.

He then gives a list of fifteen topics treated in his present report, incidentally giving the proper credit for the detailed study of these topics, when such study was not made by himself, to those members of his staff who made them. This report, like the preceding, exemplifies the use of modern scientific methods in school administration. But much more than the preceding it presents the results of the technical studies dealt with in readable fashion; and in each case gives in terse sentences the conclusions to which they point and the measures that should be taken if improvement is to be expected. This report further illustrates the possibility of securing the gradual adoption of habitual self-examination within the school system; that is, habitual examina-

tion by the teaching staff of their own performances under the leadership of a competent superintendent. I say gradual adoption because the examination of the report of the same superintendent for the preceding year shows only such studies by the superintendent; none by members of the staff.

The superintendent of *V* says:

The report of the Department of Instruction of the Public Schools of *V* for the year ending June, 1913, is arranged as follows:

He then enumerates six main topics, one of them with eleven sub-topics. It is worth noting that the first of these topics is "Expenditures for Instruction"; for although his discussion of this topic is relatively brief, it shows that the superintendent regards cost of instruction, to some extent at least, as well as instruction itself within his province. Then follows an orderly discussion, sometimes very detailed, as the length of the report (380) pages indicates, of the topics enumerated. This is a readable report; but its length and the total bulk of the volume (638 pages) in which it is printed are so great as to repel any but the most courageous reader, or the most earnest seekers for information. And the bulk and weight of the volume must be a severe strain on the perseverance of even such persons. Such a report, if intended for the people — it is

specifically designated as a part of the board's report — contains much matter that could be condensed to advantage. It also contains much matter that need not be printed at all; but of this last feature of this report and of many other reports, more hereafter.

The superintendent of *X* says:

A school report aims to give to you and to the public in condensed and comprehensive form such information as is necessary to thoroughly understand the problems which confront an educational board and, at the same time, to show what actions have been taken to meet the needs of the community. To do this it is necessary to discuss financial measures, the plans and policies of your administrative officers, your teaching force, the different agencies which have been established to bring the best in education to the greatest numbers, the school plant, and such statistical data as will best show the rapidly changing requirements. This report will also contain extracts of reports from your supervisors.

It cannot be said that the superintendent's report gives this information in such form as to facilitate its assimilation. For example, immediately under the statement of aims just given, there is a break in the text with the heading "School Buildings." The discussion of this topic includes statistical tables of costs of buildings with photographs and floor plans of some of them. Then, without any introduction, tables are given presenting statistics of persons of

school age; registration; numbers of high-school graduates for a term of years; then a table of comparative cost per pupil of fuel and light for a number of years; a list of the names of superintendents since 1867; a similar list of names of high-school principals; a list of members of the board of education and of its secretaries and treasurers for 40 years; then, similarly a series of financial tables; then a table giving the number and percentages of promotion by grades for all the elementary schools; then abruptly appears the report of the high-school principal; and the remainder of the superintendent's report consists almost wholly of subordinate reports addressed to the superintendent, but presented without comment. Such a report is confusing and disappointing — especially so in view of the promise given at the outset; and it illustrates again that unsatisfactory method of making a superintendent's report which consists merely or chiefly in assembling a mass of subordinate reports without specific references to them or interpretation of them.

The superintendent of Z says:

The purpose of this report is to give a short account of the work which our schools have done during the past year, and to point out to what degree they are ready for more progress and improvement.

This statement is in substance the statement of aim in many reports. Taken as it stands, it is too

general to be of any real value. If it expresses the real aim of the superintendent in every report he writes, and he carries out his purpose, it is clear that there will probably be a good deal of repetition from year to year with corresponding lack of interest for both writer and readers. The superintendent of Z is not content, however, with this general statement, for in the next paragraph he adds:

The most noticeable lines of progress have been made in the following: (1) Semi-annual promotion; (2) decreasing percentage of failures; (3) plan of grading and examination; (4) equipping of our school plant with the most progressive textbooks; (5) improving physical school plant — (a) by addition to school; (b) by acquisition of large site for new building in northern part of town; (c) by securing bond issue for a new eighteen-room building in northern part of town.

Unfortunately, however, although the reader's expectation is thereby aroused, only the first three topics are discussed in some detail; some of the others receive no consideration at all; and some other topics for which the reader has not been prepared receive brief treatment, or are at least mentioned. Although the superintendent of Z states that he was just leaving for work elsewhere and regrets that, in consequence, his report must be brief, this report, like some of the others, is disappointing. It does not fulfill either the general pur-

pose expressed in the first statement, or the more specific purposes suggested in the second paragraph.

I have dwelt at some length on these statements of aim in the superintendents' reports, because, in general, the subject-matter of such reports shows better organization and is more pointed than in the reports that do not contain such statements, and because such reports ought to answer the question what is the superintendent's report for? But do they? We have seen that some of the reports do not fulfill their promise even when that promise is definitely stated; some of them are so technical as to insure scant attention from any but technically trained readers; some of them are so badly organized that they are not readable; some are so long, even when readable, and are often published in such bulky volumes as to repel all but professors of education, superintendents of schools and a few of the most earnest lay readers.

Moreover, the vast majority of the people don't see school reports at all. That is to be expected from the size of an edition of a school report in most communities. (For twenty-one cities and towns in the vicinity of Harvard University the edition last year varied in size from 200 for Lexington and Norwood to 6000 for Boston. Median size 400.) But, to get some definite information on this point, I recently sent 250 letters to members of the Boston

Harvard Club and 250 to members of the Boston Chamber of Commerce (the names in both cases selected at random under each letter of the alphabet in the printed membership lists), 500 letters in all, asking if they had seen a report of the school board, including the report of the city superintendent, during the past two years. Two hundred and eleven replies were received (Harvard Club 128, Chamber of Commerce 83). About 70 per cent of the persons replying said they had not.

Two hundred and eleven people are, to be sure, a small number, but they are representative citizens of Boston and its suburbs. And since they constitute a fair sample of that portion of the community who pay most of the taxes that support the public schools, there is no reason to believe that more letters and more replies would have materially changed the results of the inquiry. Consequently the presumption is strongly in favor of my contention that the superintendents' reports do not furnish information about the schools to the people. The vast majority of the people don't see them. Such knowledge as most people get of their superintendent's reports, they are likely to get from local newspaper reviews or comments; and these at present naturally vary greatly in value because the selection of extracts and the comments usually depend on the reporters and editors concerned. In any

case, the newspapers, not the superintendents' reports, disseminate nearly all the information about their schools the people get.¹

But if the superintendent's report in its present form does not reach the people — if, as some one has said, it is a place of interment for information about the schools — what is it for?

It is for the board, of course, but the characteristics of that report already described make it unlikely that any but the most conscientious board members read any considerable portion of it, and that very few assimilate it. There is n't any direct evidence on this point, and I don't see how to get it. But it is difficult to believe that thoughtful board members have seriously tried to read some of the faulty reports that have been referred to. If they have, and passed those reports as documents giving real information to the people, they must be either very considerate of their superintendent or indifferent to the fate of the superintendent's report. In the absence of evidence which is, as I have said, difficult or impossible to secure, I am inclined to believe that when board members need or want information about the schools they apply directly to the superintendent or other officers; they do not rely on the superintendent's report for it.

¹ This statement does not apply to small communities. In towns of a few hundred inhabitants the school report is probably seen and read by a majority of the taxpayers.

But if contemporary superintendents' reports are not real sources of information for the board or the people, what are they for? Well, they may be used for reference, even for study, by the principals and teachers; because it is the custom in all school systems, so far as I know, to send the school report to the principals, and in many school systems also to the teachers. Yet no superintendent's report that I have seen mentions this as a possible use of his report. Perhaps such use is taken for granted. But, remembering the substance and form of the reports considered above, it is doubtful if much use is made of many if not most of the superintendents' reports, or can be made of them by members of the staff, for study; for reference, no doubt, in many cases.

There remains the use of the superintendent's report for exchange with the reports of other superintendents. This is a real use. If it happens, as it does sometimes, that a superintendent sends a good report and gets a poor one in exchange — that I suppose is inevitable, and must be counted among the disadvantages of democracy that in spite of its many advantages often fails as yet to employ and to seek expert service. The publication of the contemporary superintendents' reports could hardly be justified, however, on this basis alone; and yet, in view of what has been said, I am inclined to think

that, on the whole, this is the best justification for the publication of superintendents' reports as they now are.

Nevertheless, no one disputes that the right kind of superintendent's report has real and important uses. Is it not evident, however, that at present these uses are too often not apparent? Do we not need a different kind of superintendent's report or rather several different kinds — (a) one kind primarily for the board, (b) another primarily for the staff, and (c) another primarily for the people, and all three kinds for exchange with other superintendents? I think we do, and I suggest that these reports take some such form as the following:

(a) Reports intended primarily for the board should be topical reports, that is, each of them should deal by preference with a single topic or with a few topics. They should be presented at every regular meeting of the board; and the consideration of such reports should be an important part of the program of every regular board meeting. In subject-matter, they should give convincing information about the schools based, whenever possible, on carefully collected, well-organized and adequately interpreted statistics, or on other verified and verifiable data. They should also suggest general policies and make specific proposals for extensions or modifications of educational opportunities

or activities, and for new opportunities which the superintendent thinks desirable or necessary; and these policies and proposals should be based, as before, on carefully prepared studies of their desirability, or necessity; and their feasibility should be clearly shown. They need not all be published; and none of them ought to be published before they have been modified by the considerations brought to bear on them by the board.

For example, a series of first reports to the board — reports by a new superintendent, say — in addition to necessary routine matters, might cover social and educational surveys of the community made by the superintendent with the coöperation of the staff, together with an attempt or attempts to appraise the contemporary provision for education in view of the educational needs which this survey had brought to light.

Subsequent reports of the superintendent to the board would naturally keep such social and educational surveys up to date; renew former recommendations or present new ones based on them; and altogether they would give the board the necessary foundation of facts and definite proposals on which deliberations and decisions ought to be based. Reports intended for the board should also contain at stated intervals reports of progress, that is, reports on the results of former recommendations — a

glance at column 19 of Table I shows that such reports are not very common; they are found in less than twenty-five per cent of the superintendents' reports included in the table. Such reports to the board would be a contrast to the great majority of reports now submitted. They could not fail to impart definiteness and consistency to the educational policy of the school system. They would, moreover, provide a satisfactory basis for the defense of that policy as a whole and in details, in case of need.

(b) Reports intended for the staff should consist, apart from business routine, of suggestions for just such surveys as have been recommended for reports to the board. They would, however, contain technical details that need not appear or would be out of place in reports to the board. Such technical details would include definite suggestions of descriptive and statistical methods for making the social surveys; and for methods of making the educational studies (surveys) which the staff need. Such suggestions would cover the methods we now have for the objective measurement of school results, together with the testing of those methods; and, in general, would seek to base the appraisal of success or failure within the schools — the degree of progress — on facts rather than on opinions; and to do the same so far as educational theories are

concerned, whether entertained or championed by the staff or by any one else. In short the superintendent's reports to the staff should deal chiefly with the school system as an educational laboratory in which the regular or conventional educational and administrative procedure is constantly studied by the best methods now available for that purpose, and in which the results actually achieved and not merely thought to be achieved are ascertained.

Every superintendent should be equipped for leadership in such scientific study of the educational activities of his school system; and if he is not, while he is equipping himself, he can usually utilize some of the members of his staff for the purpose. I doubt if there is a single considerable school system in the country, to-day, which has not at least one supervisory officer or teacher on whom the superintendent can rely for such service. Teachers everywhere readily respond to professional leadership. The reports of the superintendent to the staff could, and I think should, afford the superintendent an invaluable and an indispensable means for the exercise of such leadership.

As before, such reports need not all be printed even in the large school systems, but they should be made accessible for study by the staff. Such reports would afford professional information and

yield a professional stimulus not now derivable from most reports — information and stimulus which, as I have said, many teachers respond to, given the opportunity. Such reports would do more than any other single thing to convert what is now too often mere routine in teaching and managing pupils to an inspiring rationalized endeavor — a consummation greatly to be desired. They would, moreover, help to develop coöperation under leadership in the staff, and such coöperation is a fundamental requisite of good school administration and supervision, good teaching, and good schools generally. Such coöperation the superintendent must win if he would secure the convincing information required for the board referred to above. He cannot himself work out the details involved, in any except the smallest school systems, and it is not desirable that he should always do so even then; but he should know how to inspire his staff to work together under his leadership for the ends in view — mutual professional stimulus and real knowledge and not merely general opinions about the work they are doing and the results they achieve.

In the large school systems such service can only be satisfactorily planned and carried on for the school system as a whole by an appropriate division of labor in the administrative and supervisory staff.

This can be accomplished by placing such work in charge of a competent supervisory officer, or by maintaining a department of investigation and appraisal. About a dozen city school systems, large and small, have already established such departments. It is odd, by the way, that while every enterprising commercial establishment maintains laboratories for research and appraisal, we are only now beginning to do this in education.

(c) Of the 26 reports in the table, 21 are addressed to the board; two to the people (one of these to the citizens), "especially to the mayor and the board of aldermen," because of the exceptional nature of the report; and three are not formally addressed to any one, although one of these is the report that expresses the intention of placing a copy in every home from which children are sent to the public schools. For reasons already given, I am convinced that the present annual reports to the people should be abandoned. If the law requires an annual report to the people, as it should, this report should be an abstract or a digest of the reports to the board — brief but comprehensive, and *clear*.

It should be borne in mind that reports intended for the people should recognize responsibility to the State as well as to the local community. An examination of a considerable number of school reports

for towns and cities in all parts of the United States shows that this responsibility to the State is seldom consciously entertained by school officials, whether boards or superintendents, and it is consequently rarely discoverable in the subject-matter of school reports. Here and there references to particular requirements of the State school law or city charter are found, but there is rarely any evidence of clear recognition of the accountability of the local community to the State in educational affairs. In view of the legal status of local school boards in this country, this is a noticeable omission. The State is the ultimate authority in educational affairs. As such it imposes educational responsibilities on its communities, and delegates to the local boards adequate authority for the discharge of those responsibilities. In other words, although the school board is a local board because of its membership and because it is charged with local responsibility, it is nevertheless a State board because its duties are prescribed by the State, and it derives its authority from the State.

Under such circumstances one would naturally expect school reports to show intentional recognition of accountability to the State as well as to the local community. But, as already stated, explicit recognition of such accountability is rare, and is usually absent altogether. It is true that some of

the information intended for the local community is usually also information for the State. But information given implicitly is often not information at all. It is obviously in the interest of clearness and effectiveness that information intended for the State should specifically appear as such in school reports. Unnecessary repetition of subject-matter could be easily guarded against by cross references and by proper organization of subject-matter.

I am insisting on this point because, in my judgment, habitual and, on occasion, careful attention by local school boards to their responsibility to the State will frequently tend to check effectively the tendency of departments of town and city governments, and particularly of the financial departments to encroach on the authority of the school boards. And it will stiffen the backbone and strengthen the hands of school boards when they are called upon to contend with such other local authorities for the control of the schools. Attempted and, at present, often successful aggrandizement of educational authority by departments of city governments, it is well known, is widespread in contemporary school administration. Wherever found, it is one of the most serious obstacles to the establishment and maintenance of good schools — schools adequate in number and organization, and in the scope and quality of the instruction provided.

The information required by the State is evidence that the general education law, or the education law incorporated in the city charter, is regularly complied with. Such information may, of course, be given in separate documents. When that is the case, appropriate references to those documents should be made in the superintendent's reports.

In any case, reports to the people prepared by the superintendent and approved by the board should be frequent. When printed by the board for distribution, they could be distributed, occasionally, through the older children, through parents' associations, and public-school associations; and they could also be distributed, as now, to persons calling for them at the office of the superintendent or writing for them. But the best medium of wide distribution of these reports would be the local press. There are few editors who would not be glad to print regularly the official reports of the superintendent and board, if they were of the sort I have indicated; and there are no publications that reach as many homes as the newspapers do.

Every large school system should maintain a publicity bureau or department under the direction of the superintendent, which should be a general clearing-house for all official reports to the people through the press. In small school systems the superintendent himself would be this bureau or de-

partment. It goes without saying that if such a bureau should become, by either accident or design, a means of self-advertisement for the superintendent or any other member or members of the staff, it could not accomplish its purpose, and would do much harm. But as the means of giving to the press well-prepared official information, it could become one of the most useful agencies which the school system could develop.

Resuming the discussion of the questions formulated above, we direct our attention next to the data of columns 7 to 17, inclusive — subordinate reports. First of all, as indicated above, the data of the table show that some superintendents embody such subordinate reports entire or in part in their own reports, making them integral parts of their reports; while other superintendents print these subordinate reports as separate documents, as a part of their reports (sometimes without any reference to them), in the portions of the reports signed by the superintendents; and finally that some superintendents' reports contain no such subordinate reports.

The data of column 18 must also be considered here. In column 18 I have listed reports of certain officers and committees of the board who, though employed for, or directing, educational activities, are not themselves engaged in teaching or the supervision of teaching. I have grouped them together

under the caption "Officers or Committees of the Board Other than Business Officers" because their duties are sometimes performed by employees of the board, sometimes by committees of the board. Such officers and committees often report directly to the board; and in such cases the superintendent has little or nothing to do with their work. We should expect, therefore, that what has been said concerning the superintendent's use of the subordinate reports listed in columns 7 to 17 applies to the reports of column 18. It does; and in addition we note that for about twenty-five per cent of the cities, these reports are not printed as part of the superintendent's report, and are not referred to in it.

Now what are these subordinate reports for; and what use should be made of them?

We have seen that some superintendents make their own reports, largely or wholly, by merely compiling these subordinate reports. Although these subordinate reports, dealing as they usually do with single topics or issues, rarely partake of the too common miscellaneous character of the superintendent's report as a whole, taken together, especially when assembled without interpretation or discussion in the superintendent's report, they often only add to the general miscellaneousness of that report; and so cannot often be of much use in a report which is itself of doubtful value. Some of

them could, no doubt, be studied to advantage by the board or the staff; but we have seen that with the present make-up of school reports this use is not guaranteed, even if more or less consciously intended. In short, these subordinate reports, though tending intrinsically toward greater usefulness because of the definiteness of their aims and the limits to which they are properly restricted, are at present too often only a part of that material which is (once more) "interred" in the superintendent's report, or the school report as a whole.

But these subordinate reports, at least, the reports of assistant superintendents, principals, teachers, and other employees of the board, can be made distinctly useful for all the different kinds of superintendents' reports referred to above. A single illustration must suffice.

The report of the superintendent of *D* contains a detailed study by a high-school teacher of the city of problems of educational and vocational guidance. The study is based on "the scholastic record, the scholastic aims, and the vocational preferences of the pupils of the school"; and covers a total of 724 pupils — 379 boys and 345 girls. It has been going on for two years, but the results reported deal only with the entering class of the preceding year. His first problem is: What is the relation of failures and withdrawals to the pupils' expectancy of finish-

ing the high-school course? He finds, as was to be expected, that without expectancy of finishing the course, the losses by withdrawal will be heavy. But the familiar administrative problem involved, namely, how to reduce the high percentage of withdrawals, is based on exact knowledge of just what proportion of the pupils is concerned.

His next problem was to ascertain the relation of a college aim to failures and withdrawals; and his statistical study of the proportion of failures and withdrawals among those who expect to go to college, those who do not wish to go, and those who wish to go but do not expect to go, enables him to point out just what the proportion of failures in each of these groups is; and that the proportion of failures in the third group — those who wish to go but do not expect to — is decidedly less than in either of the other two groups; and that the “total losses” (failures and withdrawals together) are also less than in either of the other two; and this leads him to formulate another important administrative problem.

A further study of the group who expect to go to college was made with a view to ascertaining the relation of “total losses” in three sub-groups, namely those who have decided to go to the local university; another higher institution already decided upon, and some other college or university not yet

chosen. The results enable him, as before, to propose a definite administrative problem on the basis of exact knowledge of the proportion of pupils involved.

His next problem is to discover the relation of failures and withdrawals to the presence or absence of a vocational aim. To this end, he divides the pupils into four groups: (1) Those who have a definite vocational aim with a good reason for their choice; (2) those who have a definite aim but a poor or an insufficient reason for their choice; (3) those who have no aim or an uncertain aim; and (4) those whose aim is due wholly or chiefly to the wish of parents. Incidentally, he lists the vocational aims of the boys and of the girls. Again his results point, on the basis of definite well-organized data, to an administrative problem or rather several administrative problems of great importance.

A further study seeks to determine the proportion of failures and withdrawals in particular courses. Again his results give rise on the basis of exact information to administrative problems of the highest importance.

Another problem is the relation of the age of the pupils to failures and withdrawals. "The figures give the expected results. They emphasize the difficulty of saving the older pupils from failure or from withdrawal"; and hence, they indicate, once

more, a definite administrative problem requiring early attention.

Finally, the attempt is made to determine the relation of unexcused tardiness to failures and withdrawals, with the expected result that "the inertia which is manifested in tardiness serves to pass over into that kind of inertia of character which leads to failure in studies and to withdrawal from school."

While this series of studies does not attempt to solve the problems suggested, it definitely formulates those problems on the basis of exact information of the conditions which give rise to them — the first step in any scientific study. It is an excellent illustration of a statistical study of education — in this case of a simple scientific study of high-school conditions by a member of the teaching staff; a study which is not only intrinsically interesting and valuable, but can be put to various uses by the superintendent. In a report to the board it would afford him the necessary fact basis for proposing the important administrative policies to which the study points, and the cost thereof. With some condensation it would be available as a report for the people through the press. It could be used in a report to the staff as an illustration of the kind of technical study that teachers and supervisors are now making in various schools and school systems.

Some other school reports in the table contain subordinate reports of technical studies made by teachers or supervising officers. Some of these are made by elementary-school principals; some by high-school principals; some by supervisors or directors of various studies or of school activities. No matter who makes them, they illustrate a professional awakening among teachers that cannot be too heartily welcomed. When utilized by the superintendent (who gives due credit to their authors) in his own reports — that is, when briefly discussed or interpreted by him as a part of his own administrative policy, such reports would do much to stimulate professional initiative and emulation throughout the school system; and this, next to affording a convincing basis for administrative recommendations and procedure, is the most important use of all subordinate reports.

Such reports are not, however, a common feature of contemporary school reports. The common form of subordinate reports is a conventional general statement without objective and well-organized data, and hence without any convincing or stimulating quality.

Incidentally the meager use made by the superintendent of subordinate reports or his failure to make any use of them in his own report seems to me to afford evidence of an unsatisfactory feature

of school administration in many school systems throughout the country. I mean evidence showing or tending to show that the superintendent is not the general manager of the school system as a whole. This is a matter of common knowledge so far as the business affairs of the great majority of school systems are concerned. Hence, as we might expect, the evidence of column 19 in Table I is conspicuous on this point. Column 19 shows that only three superintendents' reports in nineteen school reports containing reports of business officers discuss the business reports or refer to them in any way. This could hardly be the case if the superintendent himself and the board regarded the superintendent as general manager of the school system — the business affairs included. Certainly he ought to be. There cannot be two executive heads to an efficiently administered enterprise, whether that is a corporation for making money or for the education of children.¹

But the evidence we are considering is not limited

¹ The business manager and all his subordinates nominated by him should be nominated by the superintendent of schools as general manager of the school system for election by the board. The business affairs of the school system are not an end in themselves. They are a means to an end — the education of the children. Hence the superintendent of schools should be the chief executive for the business as well as the educational affairs of the school system.

to column 19. Column 18 (reports of officers or committees of the board other than business officers) affords more of this evidence. I have already pointed out that some of these subordinate reports are not made to the superintendent at all. They are addressed directly to the board. Under such circumstances we are not surprised to find that the superintendents for six of eighteen cities having reports of one or more of the sort designated at the head of the column do not regard them as parts of their reports, and make no reference whatever to those reports in their own reports; and that in eight more of these eighteen the superintendent has merely collected those subordinate reports and printed them without comment as a part of his report.

While the evidence on the point under consideration offered by the remaining columns of the table is not so direct, it seems to me none the less significant. For example, column 10 shows that in ten school reports out of eighteen containing at least one supervisor's report, the superintendents have contented themselves with merely printing such reports without comment as separate documents in their own reports; and column 11 shows that ten out of sixteen superintendents' reports do not refer to the high-school reports printed in their own reports. The evidence of column 11 seems to me particularly

significant, for it points to the probable comparative isolation of the high school from the rest of the school system. Such isolation is always unfortunate; and while much has been done in recent years to articulate the high school with the rest of the school system, it is more than probable that much yet remains to be done. And no one can do more to effect this articulation than a superintendent who supervises the high school as well as the other schools.

When we examine the remaining columns of the table — I will not go into details — we find (except in column 20, the data of which do not pertain to the matter now under consideration) similar evidence that many activities of the school system are either not officially within the province of the superintendent's functions or are not regarded as such by him.

Now, I know of no more exasperating position in which an executive officer can be placed than a position in which he is charged with responsibility without adequate authority — whether he finds himself in this position voluntarily or involuntarily. The general manager of the school system — the superintendent of schools — must be the manager of the whole of it or his position is sooner or later intolerable. So far as the evidence of the table goes, it tends to show that many superintendents

are only nominally and not really the executive heads of their school systems. That this is a service-defeating situation all will agree. That the superintendents themselves are partly to blame for the existing situation is clear. Individually they can usually do little to remedy this situation, although individuals here and there have done much. But collectively they could effect the needed reform. That this situation must have an important influence on the kind of reports now written by many superintendents is obvious.

Statistics are intended to present on the basis of ascertained facts contemporary educational and financial conditions within the school system; and hence to permit a just comparison between present achievements, needs, resources and expenditures as compared with those of the past, with a view to ascertaining what progress is being made. But do the statistics at present collected and presented accomplish this purpose? Column 20, with its subdivisions, shows whether comparative statistics including statistical summaries constitute a feature of the reports covered by the table; whether they contain few or no comparative statistics; whether there is fair to adequate interpretation of such statistics as are given; and whether there is little or no interpretation or discussion of such statistics.

A glance at the table will show that compara-

tive statistics are found in fifteen (about fifty-eight per cent) of the reports; and that fair to adequate interpretation of statistics is found in just half. Or, otherwise, very few or no comparative statistics are found in about forty-two per cent of the reports, and very little or no satisfactory interpretation of statistics (whatever they are) is characteristic of fifty per cent of them.

Some of the reports under consideration present more or less well-organized comparative statistics, some do not. And even in the same report some of the statistics are well organized and well presented, while some are not. For example, in the superintendent's report for *C* we find thirty-five tables of statistics. Twenty-three of these give statistics for the year 1913-14; the remaining twelve tables present comparative statistics — statistical summaries covering the years 1906-14. Unfortunately, however, only two of these last, namely, a summary of average daily membership in all the schools by grades, and a summary of total expenditure for education, have any direct relation to any of the data of the tables for 1913-14.

Now all the statistics collected in these tables are important for administrative purposes; and should be presented to the board for appropriate consideration and, on occasion, also to the staff. But, obviously, when so presented, the summaries should

immediately accompany the details, or follow those details in a group of tables in sequence preserving the order of the tables giving the details.

Unfortunately, also, not a word of interpretation or discussion accompanies any of the tables under consideration and without interpretation or discussion, any statistics are meaningless and repellent to most readers whether lay or professional. It took me nearly half an hour to find out that only two of the statistical summaries in the report we are considering had any bearing on the statistics previously presented; and a much longer time would be required to dig out the significance of either — such as it is. I say such as it is, for the significance of most of the tables of detailed statistics as they stand is practically *nil*. To be sure, they present certain contemporary conditions in the schools of *C*; but without any means of comparing those conditions with former conditions what significance have they?

In my judgment reports to the board or to the staff should always contain both statistical summaries and the details from which they are derived. These details need not be printed for the small school systems; and for the large school systems only when it is desirable or necessary to explain or illustrate a method of procedure, or on demand. They should, however, be on file in the superin-

tendent's office for consultation and reference. Reports to the people should usually contain only summaries, by items, of course, and for successive years or periods; and special pains should be taken always to interpret them so clearly that he who runs may read.

The foregoing comments on the statistics found in the present superintendents' reports apply also to many business officers' reports. As printed they too need transformation by elimination, condensation, the presentation of comparative statistics and, above all, as before, adequate interpretation.

Before bringing this study of school reports to a close, mention must be made of the considerable amount of useless material now found in many of those reports. Illustrations are: useless tables of statistics — often quite useless because they are mere collections of working data unrelated and uninterpreted, and often also because they pertain only to the year under review; lists of names of pupils enrolled in some or all of the grades including the high-school grades, and lists of names of grammar-school graduates and high-school graduates are quite useless; lists of names of teachers with or without their addresses (a teachers' directory should be on file, of course, in the superintendent's office, but there is no reason why it should be printed except for large cities); lists of names of past mem-

bers or officers of the school board; programs of graduation exercises, and programs of dedication exercises with the speeches delivered on such occasions (all invariably published in sufficient detail in the local press); most pictures of persons, buildings, grounds, interiors, activities, and floor plans.

Occasionally when long and faithful service has been rendered the school system by a person who has died or retired, his or her photograph accompanying a brief but adequate memorial is both appropriate and useful; rarely under other circumstances. Now and then the picture of a building or of equipment or of children at work or at play can serve a useful purpose by stimulating a just pride in local school expenditures for the educational opportunities provided for the children; but, in general, it would be better if this pride found expression less in expenditures for outward and tangible features of the school system and more for the less tangible but vastly more important features — such as adequate scope and flexibility of the educational opportunity provided by the city, and higher salaries for teachers and other employees; and frequent publication of them except in the local press is ineffective and involves a wasteful expenditure of money. Floor plans are out of place in a report intended for general consumption. Such plans are valuable, of course, and they should be preserved in the office of

the superintendent, where they can be studied by the few persons for whom they have any real interest.

The foregoing study of school reports points to the following.

SUMMARY AND CONCLUSIONS

1. Town and city school reports are at present vague in purpose, and miscellaneous in subject-matter, and hence ineffective. Moreover, such as they are, they fail to reach the great majority of the people, for whom they are intended, except in small communities. For all considerable cities, they should, therefore, be abandoned.

2. In place of them we should have three kinds of school reports — reports to the board, to the staff, and to the people — all prepared by the superintendent with the coöperation of the staff.

3. Reports to the board should be made monthly or oftener. They need not all be printed. In form each of them should be topical, well organized, and brief enough for thorough consideration at a single meeting. Taken together, they should give the board detailed information about the educational needs of the community and make clear the extent to which the school system meets those needs. There should be reports on every phase of the school system's equipment, activities, costs and results for each year; and, by comparative treatment (statis-

tical and descriptive) of school facts, there should also be reports of progress from year to year. They should, therefore, regularly contain, among other things, exact information about the results of previous recommendations, and recommendations for the future. In such reports the superintendent should present digests and discussions of the reports of members of his staff, giving them full credit for the work they have done, when his own reports are based on such subordinate reports as in all school systems they should be more or less, and in the large school systems they must be.

4. The reports of assistant superintendents and other supervisory officers or of teachers are at present immersed and often lost in the superintendent's report, or in the too often miscellaneous and badly organized mass of materials in the school report as a whole. When the superintendent's report consists chiefly of conventional or uncritical and optimistic general statements about the schools, these subordinate reports tend to possess the same characteristics, though they are often more pointed than the superintendent's report when that report is not good. It is not too much to say that in spite of the intrinsic value many of the subordinate reports now possess, as printed in many if not most of the superintendents' reports (or school reports), they are of little real use.

As was said above, for the preparation of reports to the board, the superintendent needs the coöperation of the members of his staff — both business and educational. Hence, the superintendent's reports to the staff should be as frequent as may be necessary or desirable to invite and, on occasion, to request the coöperation of the staff in carrying on the technical studies that must be made — the social and educational surveys required for planning, carrying on, and appraising the results of school activities for which and in which they are all engaged. They need not all be printed, except in the large school systems.

5. Reports to the people, especially for large school systems, should be frequent, say about once a month. At least once a year these reports should recognize the responsibility of the local school system to the State as the ultimate authority in public education. Reports to the people should consist primarily of the superintendent's reports to the board, divested of technical details, but with references to such details on file in the superintendent's office. Such reports need not be printed by the board. A small edition of a summary of all of them would serve the purpose of the present annual report so far as it is required by law and custom.

All official reports to the people should, however,

be communicated to the people through the local press by means of a publicity bureau in the superintendent's office — whether that bureau be the superintendent himself, or whether it consist of members of the staff organized for the purpose as in large school systems it must. It should go without saying, though we have seen that it does not, that all useless material should be rigorously excluded from all reports whether made to the board, the staff or the people, and whether printed or not.

Reports to the people could also be communicated to the people by the principals of the schools through parents' associations connected with their several schools. Similarly they might be used by clubs of various kinds, and especially in women's clubs, since these clubs have a marked and active interest in education. In all cases, however, merely sending a report to clubs or schools would hardly develop the most fruitful results. The communication of the report should always take place through persons conversant with its subject-matter and also fully alive to the significance of that subject-matter.

Further, the report to the board may well be utilized annually by the superintendent as the basis of one public address or more to the citizens collectively. The public discussion of these reports by the superintendent once or twice a year as a definite

part of the superintendent's administrative policy can hardly fail to bear fruit of value.

All of these reports should be available for exchanges with other school systems.

6. Finally, the substance and form of school reports as now printed show that the superintendent is not yet universally regarded by the people, the board, the staff, or by himself as the general manager of the school system. This is conspicuously evident in the reports of the business officers which are rarely referred to at all in contemporary superintendents' reports; and scarcely less conspicuously evident in the reports of some other officers and committees of the board in many school reports. This is an intolerable situation, for which the superintendents collectively are responsible, in so far as they accept it or acquiesce in it. No marked general improvement in school reports can be expected until this situation is changed; that is, until the superintendent is in fact the executive and professional head of the entire school system and is universally regarded as such.

IV

TESTING THE EFFICIENCY OF PUBLIC SCHOOLS

NEITHER the layman nor the professional man needs to be told that in the field of education there are very few accepted standards by which the efficiency of educational institutions can be measured. In education we are still very largely dependent on educational opinion — rather than on established truths which everybody must accept because they have been proved. The science of education is only in its beginning, and, therefore, in most cases, we have not yet reached any satisfactory standards of efficiency.

It is fortunately also true that we are beginning to develop standards of efficiency, and public-school systems the country over are making more or less use of them. We are no longer satisfied with general opinion, with general impressions. We want to get back of general impressions and general opinions, to see whether these opinions can be confirmed by indisputable and well-organized facts, or whether they are refuted by those facts.

In what follows I can best accomplish my purpose if I put before you, first of all, a series of

questions. These questions are illustrative only; but they are typical of such questions as should be put. Also, they pertain only to the educational aspects of public-school systems. Every public-school system has a business aspect as well as an educational aspect, which is just as deserving of careful consideration as is the educational aspect. But because of the little time we have, and for other reasons, too, I shall confine myself wholly to a brief consideration of certain tests that could be applied to determining the efficiency of the educational work of public-school systems.

The questions which I have to put, then, are these. (I shall ask all the questions first, and then briefly discuss one or two of them.)

1. Does the school system show adequate centralization of authority and responsibility?
2. Does it show a differentiation of lay — that is to say, of popular — control and professional management; or are the two confused?
3. Does it show accountability of the staff of the board of education to the board; and of the board to the people?
4. Does it show, or does it at least manifest a tendency toward, habitual self-examination to determine the real significance of its work and the success it achieves in that work?
5. Does it show coöperation and initiative within the staff which the school system employs; and does it show the coöperation of the community with the

school system? The coöperation of the community with the school system I have in mind is not unreasoned or unreasoning endorsement of the school system, but coöperation based on as intimate a knowledge as possible of what the public-school system is and what it needs.

6. Does it show a persistent collection and organization of the results of educational experience? And does it promote experiments in education? I do not wish to be misunderstood. Everybody knows that experiments in education are going on in every school system all the time. The trouble is that too often these experiments are not now fruitful because the fruits of the experience thus had are not collected, and do not form the basis of subsequent procedure. I shall point out before I have finished — if there is time — that unfortunately in education we are too often still “bound for nowhere under full sail.” The time is at hand, however, when we are thoroughly dissatisfied with that condition of affairs. We want a compass and a guide to the educational voyage — that is, a well-organized mass of experience — that enables us to proceed to better and more definite accomplishment.
7. Is the educational provision which a city makes commensurate with the city’s educational needs? Are the kinds of schools and their equipment satisfactory in view of the education which the city ought to furnish the oncoming generation? And, finally,
8. Is the teaching in the schools good? Does it stimulate the imagination, the reasoning power, the initiative, the hunger for more knowledge, the desire for more satisfactory achievement on the part of the

pupils; or does it mean merely assigning lessons, and listening to what the children have learned (or have not learned) from books?

These eight questions, as I have said, are merely illustrative; they are typical of the kind of questions for which we must have satisfactory answers if we wish to determine the efficiency of a public-school system. Let me go back to the first — Is centralization of responsibility and authority characteristic of the school system? Is the board of education so large that it is impossible to fix responsibility for its acts upon its members? Or does it break up into standing sub-committees that interfere with each other's operations; that overlap, whether intentionally or unintentionally, in their work, and therefore obstruct the progress of the business for which the schools exist instead of facilitating that business? Is there a clear distinction between the authority and responsibility of the board of education and the authority and responsibility of the professional staff?

In each case is adequate authority coupled with the very heavy responsibility which those people are expected to carry? There is no more exasperating position in this world, as some of you gentlemen have doubtless discovered, than to try to carry responsibilities without adequate authority. So, for example, unless the superintendent of

schools has authority commensurate with the responsibilities with which he is charged, we cannot expect efficient school administration. Obviously, since we are discussing tests of educational efficiency, we should put that in this way: In a given school system, what is the extent of the superintendent's authority in comparison with the responsibilities which he carries? For example, does the board of education hold him responsible for the teaching staff, and then itself attempt to select the teachers? Does the board hold him responsible for a satisfactory course of study in the schools, and then does it itself set about attempting to make a course of study — one of the most difficult technical problems with which the superintendents, principals, and teachers have to deal? Does the board hold him responsible for the right kind of teaching material — textbooks and apparatus — and then does it itself determine independently what textbooks and apparatus shall be used? Under such circumstances it is obviously impossible for the superintendent to discharge the responsibility with which he is charged, because he has not adequate authority.

I should like to say a few words about the second question raised: namely, Is there also adequate accountability of the board to the people, of the superintendent to the board, of the teachers to the

superintendent and to the board? In other words, are these officers held to strict account for the performance of the duties with which they are charged, assuming that they have adequate authority? But I see that I must pass on, because I wish to discuss at least one other question which I particularly want to bring home to you before I stop.

I asked the question whether the educational provision of the community is commensurate with its educational need. We used to feel that if we had elementary schools, teaching reading, writing, and arithmetic, and high schools teaching Greek, Latin, and mathematics, we had satisfactorily provided the educational opportunity which a city ought to provide. We now know that reading, writing, and arithmetic are only the tools whereby an education may be deepened and extended. In themselves they do not constitute even an elementary education. If we do not implant in the children the incentives to use those tools by acquainting them with the resources which our civilization affords — with literature, geography, nature-study, history, the arts and industries, music; if we do not teach them the importance of private and public health; and if we do not develop in them enlightened vocational purposes — if we do not do this, we know that we do not provide for the children the educational opportunity they ought to have. So, also,

we have come to realize that the aim of the high school is to lift the general level of culture and efficiency; to carry onward and upward the education which the elementary school has begun, so that each youth shall come to understand and to appreciate more fully the resources of his civilization and be able to deal more effectively with some of them.

But even that is not enough. We have come to realize that equality of opportunity in this country, so far as education is concerned, is not yet realized. We have not made education of the right sort accessible to those who need it most. I do not need to say to this gathering of mayors that in most of the cities of this country fifty per cent or more of the pupils drop out before completing the work of the elementary schools. What becomes of this vast army that leave the schools at such an early age — as soon as they are free from the compulsory attendance law? You know what becomes of them. The great majority enter the unskilled occupations, the blind-alley occupations which lead nowhere; so that by the time these young people reach the threshold of citizenship they are sophisticated, but not wiser; oftentimes more ignorant than they were when they left school. Many of them go to swell the ranks of the discouraged and the poor — some of them of the dependent and the dangerous.

Everywhere we have a great mass of the popula-

tion whom our public-school system does not reach after they are fourteen to sixteen years of age, and usually after they are only fourteen years of age. It is one of our misfortunes that we have not hitherto realized our educational responsibility to that great mass of our youth who leave the schools at fourteen, and who, except for the small fraction that go to the evening schools, are subject to no systematic educational influence from that time forward.

What I am coming to, then, is this: What is the educational responsibility of a public-school system to the great mass of its youth who are drifting intellectually, morally, economically, into the slough of discouragement, poverty, or dependence that I referred to a little while ago? We have come to realize that we must provide the right kind of education for these people *while they are at work*. They must go to work; and we must provide the kind of education appropriate to their needs, their opportunities, their capacities, while they are at work. And so the question I am asking is, What effort is the public-school system making toward the establishment of *continuation schools*: schools that continue the education of the children after they go to work — day schools, of course — in coöperation with the industries where the children are employed? Does the school system provide for those children at least whose employers are willing to let them go to school,

say for one day a week; the hours of schooling so distributed as to interfere least with the industry, but nevertheless amounting to one day a week? What is the school system doing toward the establishment of such educational opportunity for these children during their most impressionable and important years — the years of adolescence? Is it not an obvious duty to provide for them the educational opportunities that increase their efficiency as workers and at the same time broaden and deepen their outlook upon life?

Fortunately a beginning of this sort of education has already been made in this State,¹ as some of you know, and in other States as well. Industry and commerce are beginning to realize their responsibility for the education of the people whose labors they profit by and are beginning to coöperate with the schools. They are beginning to see that they owe society and youth a duty, and to seek the guidance that will enable them to discharge that duty wisely.

Now, day schools, I said, not night schools, because experience abroad and elsewhere has abundantly shown that a youngster fourteen to seventeen years of age cannot profit by night instruction as he can by day instruction, and will not profit by it. Once more, then, is the school system making an

¹ New York.

effort to secure the coöperation of industry and commerce so that these continuation schools shall be possible? The most difficult problem in this new educational endeavor is, What kind of continuation schools should the community try to establish for the education of its automatic workers who are numbered by hundreds or thousands, while the skilled workers are numbered by tens or hundreds? Difficult as this problem is it must be solved and solved soon if we are to counteract the deadening effect of automatic work on the minds and bodies of numbers of American citizens.

My time is nearly gone, but I must touch briefly on one or two more considerations before I close. I referred a little while ago to the necessity of coöperation within the staff, of the staff with the board of education, and of the whole school system with the community if the school system is to be efficient. The question is, of course, What is the nature of that coöperation? And further, What initiative is shown by the members of the staff? Are independence and initiative on the part of teachers and principals expected and welcomed by the superintendent? And, under the leadership of the superintendent, by the board of education?

It has always seemed to me that the efficiency of a school system depends in largest measure on the extent to which coöperation under leadership is

prevalent there; that is, it depends on a satisfactory answer to such questions as these: Is the superintendent of schools a recognized educational leader of his staff and in the community? Is his participation in educational affairs of such a kind that he is the man who is naturally sought for, within the school system and outside of it, when educational problems are to be solved? Has he won and does he persistently promote the coöperation of his staff, and stimulate their initiative?

I referred a while ago to the necessity of collecting and organizing educational experience if we are to have a real guide to educational procedure, that is, real standards. Let me give an illustration or two of what I mean. Some of us think there is too much arithmetic in the public-school course of study; some of us think there is too little. *Who knows?* Some of us think there is too much grammar in the course of study; some of us think there is too little. *Who knows?* For the moment your opinion is just as good as mine, and mine is just as good as yours, and neither is worth anything as an acceptable guide to practice, because everybody recognizes it as an individual opinion.

The fact is we do not yet know how much arithmetic a pupil in the fifth grade really ought to know. We don't know what the standard of achievement in arithmetic in any grade really is. We don't know

how expert a boy ought to be in addition, subtraction, multiplication, division of whole numbers, and in simple reasoning. We have general impressions, but we don't know. Now, how shall we find out? The way to find out is to apply the same test, under the same conditions, in every grade, to say 100,000 or 200,000 pupils, and collect the results. Then we shall know something about what the attainments of pupils in each grade really are; and we shall therefore have some approach to a standard, so far as the simple operations in arithmetic are concerned — a standard which is an established fact and not mere individual opinion.¹ Of course we must begin by getting that information in the individual school system; then, with the help of the State, combine the results for all the school systems. This is what is meant by the contention that the way to develop standards in education is to collect the results of experience.

Again, suppose you believe that we can get along with a minimum of English grammar, and I believe that we must have a maximum of English grammar in the schools. How shall we find out who is right? Let us see. Over here there are ten schools in which

¹ The technical reader does not need to be told that this is exactly what Mr. S. A. Courtis of Detroit was doing in developing his standards for measuring results in arithmetic when this paragraph was written.

the principals are not much interested in teaching English grammar, but very much interested in teaching the English language. And over there there are ten schools in which the principals are interested in teaching the English language with strong emphasis on English grammar. Now, at the end of a given time, say five years, let us compare the results. We shall then know a good deal more about what the effect of English grammar really is on the attainments of a youth in getting a command of the English language than we now know.

The tests of public-school efficiency which I have suggested in this brief discussion are habitual self-examination; sufficient centralization of responsibility and authority; coöperation under leadership; provision of educational opportunity commensurate with the community's educational need; and perennial organization of educational experience for the development of objective standards whereby educational results may be measured.

V

COURTIS ARITHMETIC TESTS APPLIED TO EMPLOYEES IN BUSINESS HOUSES

THIS report presents the results obtained with the Courtis Research Tests in Arithmetic applied to 446 employees of one of the largest trust companies and one of the largest department stores in Boston.

In the trust company the tests were given to groups comprising 19 to 48 individuals. Each group was a separate department of the bank, except when the tests were given in two uptown branches. In these latter cases men of various departments were included in the same group. In the store the groups usually consisted of about 20 individuals from various departments. The accounting department, however, was tested in two groups of 28 and 21 respectively. The hearty coöperation of the management in both houses made the conditions most favorable for giving the tests.

It was therefore possible to gather data which are probably as reliable as any such data could be. In fact, the enthusiasm of the participants was evidenced by requests from about 75 per cent of them for their individual records. In the bank these requests were so numerous that the management furnished blank forms and addressed envelopes for

the return of the records, thus greatly decreasing the mechanical labor of making the reports. Many also took occasion to discuss the general question of the tests, and expressed satisfaction at having the opportunity to take them. The interest taken by the bank managers in the investigation led them to ask for a full report of the speed and accuracy records of each department.

These facts justify the hope that the results are fairly representative of the real conditions in such groups of business people.

In giving the tests some care was necessary to avoid strain and excitement in individual cases due to the novelty of the experience. A few of the girls were advised to discontinue the work for a short time and begin again on the next test when it started. This occurred sometimes when an individual suddenly found that she had forgotten the details of the process of multiplication or subtraction, and was so chagrined that she could not do even the first example. Hence there are slight differences in the numbers taking the different tests.

Another condition developed early in our experience, namely, the completion of a test by a considerable number of a group before the time allowance had expired. In the case of the sales-girls, this amounted to about 10 per cent of each group; while in the accounting departments, it became more than

50 per cent of the group. The same condition made it necessary in the bank groups, which often included over 30 individuals, to have at least two scorers available to record the time required by each participant to complete the test. These records were made correct to within 5 seconds.

The tests used were the Courtis Standard Research Tests, numbers 1-4, Series B.

Each participant was requested to record his age, the number of years of education above the grammar school, the number of years he had worked for the firm, and the department in which he now worked; and some general explanation of the purpose and nature of the tests was given to each group.

The directions at the top of the addition test were read aloud to the group while each one followed the reading on his own copy, and directions were given for all who finished before the time expired to raise a hand in order that the exact time might be recorded for each individual. After the first test the members of each group were cautioned before each test to let the scorers know as soon as they had finished. In each of the last two tests they were cautioned before they began to work that the figures must be made fairly small in order not to interfere with the example below, and they were told the number of minutes which would be allowed for the test in question.

TEST NO. ONE, ADDITION — ALL PARTICIPANTS

The median score for examples finished in this test was 22.87. The median accuracy was 88.6 per cent.

These scores are greatly in excess of the median scores obtained by the eighth-grade pupils in the public schools, which are about 12 for speed and 76 per cent for accuracy. About 19 per cent of this group attained 100 per cent accuracy for 12 or more examples, while there are only about 5 per cent of the school group who attain this accuracy.¹ If, however, we take the number who attain 100 per cent accuracy for 22 or more examples, which is the median speed score for this group, we have only about 15.7 per cent.

It is evident, of course, that no comparison of these medians with eighth-grade scores is very significant except as a means of determining the possible desirability of making the training in arithmetic in the grammar or high schools a better preparation for the real demands of the business world. For such a purpose it is evident that the results of the addition test are most important.

The sales-girls who were tested in this group use addition almost exclusively; and the only practice

¹ Manual of Instruction, Courtis Standard Tests, Revised 1914, p. 74.

which they have in it is the addition of their daily sales. These may amount to as many as twenty items, but often are as few as five. In the bank, however, and in the accounting department of the store, the situation is different. Here we find the cashiers and bookkeepers continually adding long columns. The amount of practice obtained then varies from almost none to continual practice during business hours.

Only about 14 per cent of the group fell below the eighth-grade speed in addition, which is 12 examples. One reason for this greater speed is probably the method used by the bookkeepers; that is, the continual search for combinations of numbers whose sum is 10. This is a method which requires some maturity of thought. It becomes automatic through much practice, but it requires a certain amount of quick judgment in skipping the numbers which do not make the combination desired and returning to these numbers later. The child at twelve or thirteen years of age can hardly be expected to have the quick decision which enables the adder to skip around and be sure that every number is finally accounted for. Hence the probability is not great that eighth-grade pupils could attain the speed shown by these records, even if this method of adding should be continually practiced in the schools.

Another striking fact about the group is the large number who finished the test before the eight minutes had elapsed. Two hundred and eight, or nearly half the group, completed the test in less than eight minutes, and in some cases the time was less than four minutes. If the most rapid adder had been able to continue on similar examples at the same rate for the full eight minutes, he would have finished 51 examples. This is more than four times the speed attained by the median eighth-grade pupil. It is at the rate of about one example in nine seconds.

The median accuracy of the group is 22 per cent above that of the eighth grade. This also is probably due to the great amount of practice which a large part of the group has had. There were 20.8 per cent who attained 100 per cent accuracy, and only about 10 per cent who scored less than 50 per cent accuracy. In the returns for 1915 in the public schools, we find that only 10 per cent attained 100 per cent accuracy, and that about 20 per cent dropped below 50 per cent in accuracy.¹

The Department of Educational Investigation and Measurement in the Boston Public Schools has established as a definition of "efficiency," the per cent of the group which attains an accuracy of 80

¹ Bulletin Number Four, Courtis Standard Research Tests, p. 36.

per cent or over in a number of examples equal to or greater than the standard median speed score. If this be considered the definition, this group has an efficiency of 44.9 per cent. The efficiency for the eighth grade of the Boston Public Schools in 1916 was 29 per cent. The Manual of Instruction for the Courtis Standard Tests computes efficiency on a 100 per cent basis instead of an 80 per cent basis. If this definition be taken, the efficiencies of this group and the Boston eighth grades are respectively 15.9 per cent and 4 per cent. In both these cases the standard median speed score of this group was considered to be 22, while the standard for the public schools of Boston was 12, which is the median speed for the eighth grade. If 12 instead of 22 were used as the standard, the efficiency of the group would be 63.4 per cent.

If we take the results shown in this table as a fair statement of the speed, accuracy, and efficiency demanded by the business institutions of the highest grade which require an ability to use arithmetic, we find them much higher than the standards now used in the public schools. But we cannot expect the pupil, at the time of his graduation from the grammar school, to be able to compete with the trained employee in any of these achievements. Much must be acquired through practice and maturity. It is possible, however, for the schools to

give more continued practice in the fundamental operations by placing more emphasis on numerical computation in the high-school branches of mathematics. This would not only increase accuracy in arithmetic, but would be of great advantage to those interested in the higher branches of mathematics. Students interested primarily in the theoretical side of mathematics would lose nothing by the increased efficiency in numerical computation, and those who do not continue the study of the subject would certainly gain much.

But, in view of the discrepancy between the school attainments and the demands of business, we may ask the question, can the school training be so modified as to more nearly fulfill the business demands without sacrificing other important interests of the children?

TEST NO. TWO, SUBTRACTION — ALL PARTICIPANTS

The subtraction test gives results similar to those given by the addition test. The medians are slightly lower than those for addition, which is evidently due to lack of practice. The median speed is 19.3, about three lower than the addition median speed. The standard median speed for subtraction for the eighth grade is one more than that for addition. The speed for this group is, however, well above that of the schools, being 19 against 13 for

the eighth grade. The median accuracy is 85.3 per cent, which is only about 5 per cent above the eighth-grade accuracy, and is 5 per cent below the median for 1916 in the Boston eighth grades. The efficiency figured on the basis of the standard eighth-grade speed of 13 is 45.9 per cent, while the efficiency for the Boston schools is about 34 per cent. On the 100 per cent basis these efficiencies are respectively 14.6 per cent and 17 per cent.

Here again the records all exceed the corresponding public-school records, but there is a much greater excess in speed than in accuracy. The greater accuracy of the public-school pupils in subtraction is probably due to the shorter individual operations necessary before a record of the operation is made. There are two reasons why this difference is not so great for the group under consideration. First, the greater opportunity to practice addition than subtraction makes the latter combinations less automatic than the former, and hence more difficult. This partially counteracts the greater accuracy which we should expect from the shorter operation. Second, the greater maturity of mind in this group tends to offset the uncertainty caused in the child's mind by the longer operations in addition.

TEST NO. THREE, MULTIPLICATION — ALL
PARTICIPANTS

The multiplication test record shows one striking feature when compared with the other records. The median speed is 13.8 against 11 for the public schools. The median accuracy, however, drops to 64.8 per cent against 81 per cent in the public schools. This is a drop of 24 per cent from the addition median accuracy; is 17 per cent below the general public-school record; and is 18 per cent below the Boston public-school record for 1916. This great drop in accuracy is due, of course, partially to lack of practice in multiplication, but other factors also play a part in the decrease. We find in the division test, an operation as much neglected by this group as is multiplication, a median accuracy of 84.8 per cent. Again, as has been said, the great accuracy in addition is probably due to the nearly automatic mental process produced by much practice. This not only aids the accuracy of the addition process, but inhibits the other processes. The fact that each operation in multiplication is of short duration before the result is written, should tend to make the results more accurate than those in addition; but this element is evidently more than balanced by the lack of practice for the group here considered.

The efficiency in multiplication on the basis of the standard speed of 11 examples is 21 per cent. The efficiency for the eighth grade of the Boston Public Schools is 36 per cent. This shows a drop of 42 per cent from the efficiency in addition, while the Boston Public Schools show an increase of 7 per cent over the addition efficiency. This seems to indicate that the school children, under a fairly uniform amount of training on all the processes, acquire a greater accuracy in multiplication than in addition. Hence the group which we are considering really shows a decline much greater than the 42 per cent indicated by the tables; for, under uniform conditions of practice, they ought to show an increase. On the 100 per cent basis the efficiencies of this group and the eighth grades of the Boston Public Schools are respectively 2.7 per cent and 7 per cent.

Similarly, if we consider the Boston Public School median accuracies for addition and multiplication, we find an increase for multiplication of 5 per cent, while the group we are considering shows a decrease of 24 per cent. Here, again, the real drop is more than 24 per cent if we consider that there really should have been an increase of about 5 per cent.

It is interesting to note also that, although 15 finished the multiplication test before the time limit expired, no one got correct answers to more than 23 of the 25 examples. Again, only 21, or less

than 5 per cent, of the whole group of 446 who tried the test attained 100 per cent accuracy in the number they attempted. In the addition test, there were 93 or 20.8 per cent; in the subtraction test, 79 or 17.7 per cent; and in the division test, 118 or 26.4 per cent who reached 100 per cent accuracy.

It is evident, then, that there is something decidedly difficult in multiplication for this group of business people who have little occasion to use the operation. This was very evident while the tests were being taken, for, when the multiplication test was begun, many appeared greatly disturbed and proceeded slowly.

TEST NO. FOUR, DIVISION — ALL PARTICIPANTS

The division test shows a median speed of 11.1, and a median accuracy of 84.8 per cent. The efficiency on the 80 per cent basis is 40.7 per cent, and on the 100 per cent basis it is 17.2 per cent. This speed is 1.1 lower than the Boston eighth-grade median for 1916, but equals the eighth-grade speed for the public schools in general. The accuracy is about 10 per cent below the Boston eighth-grade standard for 1916, and 6 per cent below the general standard for public schools. The efficiency is 2.3 per cent below the Boston eighth-grade efficiency on the 80 per cent basis, and 8.8 per cent below on the 100 per cent basis.

We see from these data that the speed and accuracy for this group in division are very nearly the same as those for the public schools, in spite of the fact that almost no practice is afforded for this operation in either of these business houses.

Summaries of our records and of the records of the eighth grade of the public schools in general for 1916 and of the Boston eighth grades for 1916 are given in Table No. 1.¹

TABLE NO. 1

	<i>Addition</i>				<i>Subtraction</i>			
	<i>Median speed</i>	<i>Median accuracy</i>	<i>Efficiency</i>		<i>Median speed</i>	<i>Median accuracy</i>	<i>Efficiency</i>	
			80%	100%			80%	100%
Business group	22.8	88.6%	63.4%	19.1%	19.3	85.3%	45.9%	14.6%
Boston	12.9	77 %	29 %	4 %	13.9	90 %	37 %	17 %
General	11.6	76 %			12.9	87 %		

	<i>Multiplication</i>				<i>Division</i>			
	<i>Median speed</i>	<i>Median accuracy</i>	<i>Efficiency</i>		<i>Median speed</i>	<i>Median accuracy</i>	<i>Efficiency</i>	
			80%	100%			80%	100%
Business group	13.8	64.8%	21.0%	2.7%	11.1	84.8%	40.7%	17.2%
Boston	11.8	82 %	36 %	7 %	12.2	94 %	43 %	26 %
General	11.5	81 %			10.7	91 %		

¹ Data furnished by the Department of Educational Investigation and Measurement, Boston Public Schools.

It is noticeable that in this table we find the speed of the business group always greater than that of the schools, except in the division test where the Boston score is slightly greater. The fact that the speed is greater, even in those operations in which no practice is afforded by the daily tasks of this group, tends to show that speed is dependent to some extent on maturity and ability to concentrate the thought on the task in hand.

We note also that the accuracy for the school groups in both addition and multiplication is greatly below that in subtraction and division. Mr. Courtis says in a recent bulletin: "At present in addition and multiplication it is only very exceptional work in which the median rises above 80 per cent accuracy, while in subtraction and division the limiting level is 90 per cent." We find in the business group under consideration, however, a great drop in accuracy for the multiplication test only. The fact that the accuracy for addition is so high is, of course, due partially to the large amount of practice which many of the group have in that operation, and the lack of practice in multiplication probably accounts for the decrease of accuracy in this operation, where we should normally expect an increase over the addition accuracy. The reason for the low per cent of accuracy in the multiplication test for the business people is probably also the

reason for the low per cent of accuracy in the two operations, addition and multiplication, for the school groups.

We cannot conclude that the difficulty lies in the operations themselves, without much more searching tests. One possible explanation is that the tests as now constituted have examples in subtraction and division which are distinctly easier than those in the other operations. In the division test the examples all come out even; and in the subtraction test the single operations of subtraction are much easier than the single operations of the multiplication test, and they are much shorter than the operations in the addition examples. Tests should be devised which would consist of examples of equal difficulty, that is, tests in which each addition example would be equivalent in difficulty to each example of the other three tests.¹ We might then determine whether the difficulty for this group lies in the operation or in the individuals who were tested.

The fact that the median accuracies in addition and multiplication for the public-school eighth grades are more than 10 per cent below either the subtraction or division accuracies, together with the fact that the addition median accuracy and multiplication median accuracy differ by only 3.3 per cent and subtraction and division accuracies differ

¹ The writers are engaged in the development of such tests.

by only 5 per cent, seem to indicate that the present tests do not offer equal difficulties.

DEPARTMENT-STORE SCORES

Turning now to the scores obtained by the separate institutions, we find for the 226 individuals tested in the department store a median speed of 18.2 in addition, which is a little more than six above the standard eighth-grade score. In subtraction the median speed is 13.2, which is only slightly above the standard. In multiplication it is 10.9, which is practically the same as the standard, but in division it is 8.76, while the standard is 11. The median accuracies are respectively 82 per cent, 77.3 per cent, 62.7 per cent, 77.3 per cent, while the standards are respectively 76 per cent, 87 per cent, 81 per cent, 91 per cent. Although the speed scores are lower than those of the whole group, they are equal to or above the standard scores for eighth-grade pupils except in division. On the other hand, the accuracy scores are 10 per cent or more below the standard eighth-grade scores except in addition.

The high scores in addition are due largely to the practice which the group has in this operation, and the low scores in the other tests are likewise due to lack of practice. We see again, however, that the speed scores show the probable influence of maturity. It is interesting to note that 15 per cent of the

group show 100 per cent accuracy in addition and 15 per cent show an accuracy less than 50 per cent. The public-school records according to the 1915 returns show only 10 per cent who attained 100 per cent accuracy, and about 20 per cent who fell below 50 per cent accuracy.¹

There were two distinctly different groups tested in this store, the sales-girls and the accountants. The sales-girls have very little practice in any of the operations, while the accountants have a great deal of practice in addition, but very little in the other three.

The scores of the sales-girls for median speeds in the four tests are respectively 16.0, 11.8, 9.98, 7.56. These are all below the school standards for eighth-grade pupils except the addition speed, which is four above. Hence it seems probable that the slight amount of practice coupled with the greater maturity will account for the higher speed in addition. The practice for these girls is not much more than a single example each day. This usually amounts to something between two and twenty items to be added in making up the sales for the day — as has already been said.

The accuracy scores are respectively 67.4 per cent, 70.2 per cent, 56.9 per cent, 66.6 per cent. These are all below the corresponding medians for

¹ Bulletin No. 4, Courtis Standard Research Tests, p. 36.

the eighth grade. If we assume that practice is largely responsible for accuracy, we can account for these low medians by the fact that little practice is afforded in these operations by their daily tasks. We find in the addition test, however, that 11.9 per cent of the group attained 100 per cent accuracy which is 2 per cent above the school record. Also, only 12.3 per cent fell below 50 per cent in accuracy, which is about 8 per cent below the school record.

The accounting department records show very high medians. The addition and subtraction median speeds are both above 24 examples. The addition median is at the rate of 30.7 examples in eight minutes, and the subtraction median at the rate of 28.2 examples in four minutes. Thirty-eight out of the forty-nine who took the addition test finished before the eight minutes had expired, and 36 finished the subtraction test in less than four minutes.

For multiplication and division the speed medians are respectively 19.7 and 13.7. These scores are much above the eighth-grade scores, which are 11 examples for both tests.

The accuracy medians are respectively 93.6 per cent, 92.1 per cent, 75.6 per cent, 92.1 per cent. These are in all cases, except multiplication, above the eighth-grade standards. which are respectively

76 per cent, 87 per cent, 81 per cent, 91 per cent. There were 26.5 per cent of the group who attained 100 per cent accuracy in addition, and only one individual dropped below 50 per cent accuracy. The efficiency of the group in addition is 81.7 per cent on the 80 per cent basis, while the highest Boston eighth-grade score is 33 per cent, made in 1915.

BANK SCORES

In the bank 220 individuals were tested. The addition test gave a median speed which would amount to 28.3 if a sufficient number of examples had been supplied. The median accuracy in addition is 92.9 per cent, and the efficiency computed on the 80 per cent basis is 76.3 per cent. One hundred and forty-six, or about two thirds of the group, finished the twenty-four examples in eight minutes or less; and 59, or about 26 per cent, attained 100 per cent accuracy. Less than 4 per cent had an accuracy below 50 per cent, and about 4 per cent finished fewer than twelve examples.

The median speed in subtraction was also over 24, and 112 finished the test. Fifty attained 100 per cent accuracy; while only 4 made a score of less than 50 per cent in accuracy. The median accuracy is 91.4 per cent, and the efficiency on the 80 per cent basis is 74.4 per cent.

The multiplication and division tests show 16.3

and 13.9 respectively as the median speeds. The multiplication median accuracy is 69.3 per cent, while the division median is 90.1 per cent. Thus we find the same decided decrease in accuracy for the multiplication process which was noted in Table No. 1. Although the accuracy here is slightly higher than that for the whole group, it is still over 20 per cent below the accuracy in the other tests for the bank. The efficiency for multiplication is 31.0 per cent, and for division 57.9 per cent. While the accuracy median for multiplication is only slightly above that of the whole group, the efficiency is 10 per cent above. This is accounted for by the greater number of scores above 80 per cent accuracy which fall in the high-speed section of the table. Only 6 scores of the 80 per cent or better group fell below a speed of 11, which is the standard eighth-grade median speed. In other words, the inaccurate work in this test was done by those who did few examples. The various departments of the bank show different degrees of speed and accuracy depending both upon maturity of business experience and practice. Table No. 2 exhibits these scores for the bank, the store, and the Boston eighth grade for 1916.

In this table the median speed scores for addition and subtraction were computed by finding the actual middle individual in each group when the

TABLE NO. 2

Department	Median speed				Median accuracy				Efficiency 80% basis			
	Add.	Sub.	Mult.	Div.	Add.	Sub.	Mult.	Div.	Add.	Sub.	Mult.	Div.
Banking.....	32.0	27.4	18.0	16.2	95.0	93.7	81.1	95.0	82.9	83.3	45.8	68.7
Bookkeeping.....	39.7	33.9	13.8	15.0	97.5	98.5	61.6	92.2	96.9	97.8	9.4	50.0
Check tellers.....	23.8	23.2	16.3	13.2	88.7	83.0	63.1	81.2	64.0	56.0	12.0	52.0
Corporations.....	24.0	19.0	16.3	14.2	85.5	88.5	82.0	90.0	68.2	72.7	54.5	68.2
Listing.....	18.1	21.5	12.5	9.5	88.3	91.6	62.5	85.0	72.7	63.6	9.1	45.4
Transfer.....	22.6	19.7	13.6	12.3	87.1	88.2	68.0	85.0	61.9	69.0	28.6	40.5
Branch No. 1.....	29.9	24.0	15.5	14.8	95.6	89.0	69.0	85.6	84.2	68.2	31.6	73.7
Branch No. 2.....	29.1	24.5	15.3	13.5	93.3	90.0	66.6	100	90.9	68.2	27.2	68.2
Whole bank.....	28.3	24.0	16.3	13.9	92.9	91.4	69.3	90.1	76.3	74.4	31.0	57.9
Accounting.....	30.7	28.2	19.7	13.7	93.6	92.1	75.6	92.1	81.7	77.6	38.8	57.2
Sales.....	16.0	11.8	9.98	7.56	67.4	70.2	56.9	66.6	36.2	18.6	5.1	14.7
Whole store.....	18.2	13.2	10.9	8.76	82.0	77.3	62.7	77.3	46.0	29.2	15.5	36.3
Boston 8th grade 1916	12.9	13.9	11.8	12.2	77	90	82	94	29	37	36	43

median was above 24. This was possible because we had the record of the time taken by each individual to complete the test. Hence, the test sheets were arranged in the actual order of speed, and the "middle man" of the group selected. From the time recorded on his sheet it was then possible to compute the number of examples which he could have completed in the time allowed for the test.

The order of departments in respect to speed is just as we should expect from their natures. In the addition test this order is Bookkeeping, Banking, Accounting (department store), Branch No. 1, Branch No. 2, Corporations, Check Tellers, Transfer, Listing, Sales (department store). It is natural that the bookkeepers, who have almost continual practice in addition, should make the highest record. The lowest score in the bank was made by the listing department which consists of beginners or assistant bookkeepers. Half of this group have been employed in the bank less than a year. They have very little practice in addition, most of their work being the recording of amounts and other minor details of the bookkeeping. The sales department in the department store made the lowest record. The lack of practice and the lower ability demanded of this group, of course, account for the low score.

The accuracy records in addition follow nearly

the same order. The only striking change is that the listing department takes seventh place instead of ninth, and the corporations department takes ninth place instead of sixth. This shows that those who have the best speed usually are the most accurate in their work — a fact which is also evident from an examination of individual records, and was very noticeable at the time when the tests were given. Those who could concentrate all their attention on the task in hand were the first to finish, and made very few errors.

One interesting fact about the multiplication test is that the best speed record was made by the accountants of the department store, where there is much more general bookkeeping than in the bank, and consequently much more opportunity to practice the operations other than addition. It is still more significant that the bookkeeping department of the bank, which made the best speed and accuracy records in addition, made the very lowest accuracy record (61.6) of any department in the bank in multiplication, and was only 5 per cent above the sales department of the store. Does this mean, then, that excessive practice in addition really decreases the accuracy in the unused multiplication process? Perhaps this shows that ability to add rapidly and accurately is not transferred even to a process so closely related as multiplica-

tion. There may be a deeper significance in this than appears on the surface, since we find that this department makes a score of 92.2 per cent in accuracy in division. This record, however, is third instead of first in the series of departments, one of the branches and the banking department scoring a higher accuracy. This can be explained by the more general training which these two departments have.

Apparently a deadening effect is produced by the uncertainty of the results in multiplication, and this uncertainty is somewhat dispelled by the even answers of the division examples. This conclusion seems the more tenable when we note that the scores of those departments which have lower abilities in the other tests show no such striking jump from multiplication to division, although they have less ability in multiplication than in any of the others. The sales-people in the department store, whose abilities may be called untrained in these four operations, show only 10 per cent difference between multiplication and division. The banking department shows only 15 per cent difference, and the corporations department, which has the least intensive training in addition, shows only 8 per cent difference. It seems safe to conclude, then, that acquired accuracy in addition is not transferable to accuracy in multiplication; and that the lack of

confidence in the results still further prevents the expert adder from attaining a high degree of accuracy in processes other than addition. It seems clear also that the more evenly the abilities in the four operations are trained, the less difference there is between the scores in the various tests.

SCORES OF GRAMMAR-SCHOOL AND HIGH-SCHOOL GROUPS

Another comparison of scores which seems to be of some interest is that of the high-school and grammar-school groups; that is, those who have had school training above the grammar school and those who have not. It was not possible to compare the whole 446 in this manner because no returns for this purpose were made by the first two groups in the department store. Data from the whole bank group were obtained, however, and here there were 196 who had been trained in schools above the grammar grades and 25 who had not been so trained. In the department store 104 of the first and 78 of the second were reported. Table No. 3 shows the medians as computed from these data.

The scores for the department store show a higher grade in every case for the high-school group. Among those of the bank there are three grammar-school scores which are slightly above

TABLE NO. 3

	Median speed				Median accuracy				Efficiency 80% basis				
	Add.	Sub.	Mult.	Div.	Add.	Sub.	Mult.	Div.	Add.	Sub.	Mult.	Div.	
Bank	High	27.7	24.0	16.5	13.8	93.1	91.0	69.2	90.9	77.0	72.7	30.6	59.7
	Grammar	25.9	23.8	14.8	14.4	90.0	93.8	71.7	85.0	75.0	72.0	28.0	44.0
Store	High	19.9	15.2	13.3	9.99	86.2	82.9	65.0	87.7	55.8	39.4	16.3	32.7
	Grammar	16.8	12.5	10.8	7.25	73.0	71.1	52.8	68.2	33.3	25.6	11.5	16.7

the corresponding high-school scores. The median speed for division is 6 per cent higher for the grammar-school group, the median accuracy for subtraction is 2.8 per cent higher, and the median accuracy for multiplication is 2.5 per cent higher. The same drop of about 20 per cent in the accuracy of multiplication when compared with the other operations is again noticed here. There is no decided difference between the high-school and the grammar-school groups in this respect, which tends to show that the drop is not due to differences in previous school training.

We find the bank groups superior to the department-store groups even in this arrangement. This strengthens the conclusion that the steady practice is the strongest factor in the high scores. Although there is no great superiority shown by this table for the high-school group, we may conclude from the smallness of the grammar-school group in each case that both institutions give preference to high-school graduates. Indeed, this was specifically stated by a member of the department-store management.

In conclusion we may say that the records thus far obtained make the following statements fairly reliable: (1) This group shows a striking superiority in speed over the eighth-grade pupils of the public schools. (2) A marked superiority in accuracy for

addition is also evident, but there seems to be no general superiority in accuracy for the other three operations. (3) There is a much sharper decline in accuracy for multiplication, as compared with the other operations, than is shown in the eighth-grade records. (4) Speed is evidently due partially to practice and partially to maturity. (5) Accuracy is due largely to practice. (6) The great acquired accuracy in addition does not insure even moderate accuracy in multiplication, nor increase the normal accuracy in division.

The investigation raised several questions in regard to the comparative difficulties of the various tests. It is probable that longer tests in all the operations would give more reliable results in regard to speed for adults. Several questions of detail in regard to the change in the order of the individuals, with respect to both speed and accuracy for the different tests, may prove of value if more thoroughly studied. In fact, the results obtained, and the interest shown by the managements of both institutions, as well as by the participants in the tests indicate that further investigations of a similar character would not only be interesting, but might yield fruitful results.

The investigation also suggests the following questions:

- (1) Is speed due largely to maturity? If so, should most of the efforts of the schools be exerted to obtain accuracy?
- (2) Can this accuracy be obtained by means of many perfection tests, giving practically unlimited time to each test?
- (3) Is accuracy easier to attain when children are young than in the more mature years of the high school?
- (4) Does practice give young pupils as much accuracy as the same amount of practice would give older pupils?
- (5) Does confidence in the accuracy of the answers really give enough encouragement to the worker to make the practice under these conditions more valuable? If so, why not furnish answers for a large part of the examples in school work?
- (6) Does the general training of the high school contribute something which increases the ability to perform the four fundamental operations of arithmetic more rapidly and accurately even though no practice in these operations is afforded by the high school?
- (7) Would tests of equal difficulty in all the operations — that is, tests in addition, for example, each of which should equal in difficulty each test in the other operations — yield results of value?

VI

MEASURING PROGRESS IN LEARNING LATIN

PURPOSE OF THE PRESENT INVESTIGATION

THE chief purpose of the present investigation, which is only a preliminary study, is to measure the growth of power in three elements of Latin assumed to be fundamental — vocabulary, translation, grammar; a second purpose is to ascertain what correlations exist between these phases of growth.¹

THE TESTS

Naturally, the first problem was to develop suitable tests in the three fundamentals of language acquisition named above. Since the aim is to measure the gain in power in these fundamentals, it is obvious that the tests must satisfy two conditions, namely: (1) they must be suitable for first-year pupils; and (2) they must be applied to the same pupils at about the same time of the year in subsequent years. The tests finally adopted are given in Table I below.

¹ Three graduate students working under my direction were assigned to this investigation: Messrs. D. H. Fletcher, A. J. Chidester, and J. F. Butterworth. By far the greater part of the work was done by Mr. Fletcher.

It will be seen that the conditions which the tests must satisfy were met as follows:

- (a) No word appears in the four vocabularies of fifty words each which occurs less than one hundred times in Cæsar and Cicero.¹ Our results seem to justify the use hereafter of only one of these vocabularies (of fifty words each) instead of all four (two hundred words). (For further suggestions on this point, see the summary in Table V, at the end of this report.)
- (b) The translation test contains only constructions which are found at least five hundred times in Cæsar and Cicero.²
- (c) The grammar test consists of questions on the text of the translation test.

TABLE I

1. City.....	School.....	Class.....
2. Pupil's name.....	Age, nearest birthday.....	
3. This is my.....	year of studying Latin.	
4. Date.....		
5. Time (in minutes) taken by test.....		

LATIN VOCABULARY I

1. possum	10. accipio	19. nihil
2. dico	11. cognosco	20. castra
3. facio	12. constituo	21. civis
4. do, dare	13. appello	22. amicus
5. habeo	14. audeo	23. crimen, -inis
6. puto	15. capio	24. deus
7. arbitror	16. homo, -inis	25. acies
8. gero	17. res	26. annus
9. mitto	18. iudicium	27. arma

¹ See *Latin Word List*, by George H. Browne. Ginn & Co.

² See *Syntax of High School Latin*, edited by Lee Byrne. The University of Chicago Press.

28. adulescens	36. unus	44. non
29. adventus	37. quidam	45. a, ab
30. ædes	38. alter	46. etiam
31. qui, quæ, quod	39. fortis	47. ita
32. omnis	40. invitus	48. quidem
33. hic, hæc, hoc	41. liber, -ra, -erum	49. ante
34. nullus	42. maximus	50. apud
35. tantus	43. in	

LATIN VOCABULARY II

1. sum	18. vir	35. noster
2. video	19. civitas	36. summus
3. videor	20. pecunia	37. gravis
4. volo, velle	21. jus, juris	38. inimicus
5. fero, ferre	22. genus, -eris	39. reliquus
6. venio, -ire	23. imperium	40. miser, -era,
7. credo, -ere	24. salus, -utis	-erum
8. intellego, -ere	25. caput, -itis	41. nefarius
9. licet	26. cupiditas	42. ad
10. cogito	27. dolor	43. cum
11. concedo	28. ætas, -atis	44. et
12. conscribo	29. auctor	45. quod
13. accido	30. auxilium	46. tamen
14. animadverto	31. ille, -a, -ud	47. tum
15. censeo	32. quis, quæ, quid	48. at
16. lex, legis	33. suus	49. denique
17. populus	34. aliquis	50. igitur

LATIN VOCABULARY III

1. ago, -ere	18. tempus, -oris	35. alius, -a, -ud
2. debeo, -ere	19. scelus, -eris	36. totus
3. quero, -ere	20. sententia	37. ullus
4. oportet	21. virtus, -utis	38. alienus
5. peto, -ere	22. equitatus	39. amplus
6. relinquo, -ere	23. flumen	40. optimus
7. scio, -ire	24. frater	41. parvus
8. decerno, -ere	25. frumentum	42. paucus
9. eripio, -ere	26. classis	43. ut, uti
10. existimo	27. collis	44. atque
11. coepi, -isse	28. comitium	45. aut
12. confiteor, -eri	29. condicio, -onis	46. vero
13. conjungo	30. consuetudo, -inis	47. ne
14. conor	31. tu	48. per
15. consequor	32. bonus	49. magis
16. locus	33. is, ea, id	50. minime
17. modus	34. vester	

LATIN VOCABULARY IV

1. audio, -ire	18. consilium	35. quantus
2. judico, -are	19. vita	36. clarus
3. soleo, -ere	20. ager	37. communis
4. teneo, -ere	21. copia	38. duo, -æ, -o
5. jubeo, -ere	22. exercitus	39. plurimus
6. nego, -are	23. fides	40. posterus
7. orno, -are	24. gratia	41. præclarus
8. consisto, -ere	25. iter, itineris	42. cum
9. contemno, -ere	26. laus, laudis	43. de
10. corrumpo, -ere	27. manus, -us	44. e, ex
11. cupio, -ire	28. mens, -tis	45. autem
12. damno, -are	29. contio, -nis	46. modo
13. doceo, -ere	30. corpus, -oris	47. nam
14. dubito, -are	31. idem, eadem, idem	48. propter
15. duco, -ere	32. ego	49. sine
16. animus	33. ipse, -a, -um	50. contra
17. bellum	34. ceteri, -æ, -a	

TRANSLATION

Suggested Credit

- | | |
|----|---|
| 5 | 1. Helvetii in Gallorum finibus bellum gerunt. |
| 5 | 2. Viri inimicos hastis fugabant. |
| 10 | 3. Legatos qui auxilium peterent misit. |
| 10 | 4. Hoc facere potuit. |
| 10 | 5. Laudari est gratum. |
| 10 | 6. Quæsivit ubi esset Cæsar. |
| 10 | 7. Vereor ne absit. |
| 10 | 8. Una pars quam Gallos obtinere dictum est, ad inferiorem partem fluminis Rheni pertinet. |
| 15 | 9. Gaius Julius Cæsar, clarissimus imperator Romanus, librum de bello Gallico scripsit, quod ipse in Gallia gesserat. |
| 15 | 10. Hoc rumore audito, tantus terror omnium animos occupavit ut ne fortissimi quidem proelium committere vellent. |

GRAMMAR

10 for each sub-
question

1. State the case and the reason for using the case:

(a) Gallorum, sentence	1.
(b) finibus,	" 1.
(c) hastis,	" 2.
(d) partem,	" 8.
(e) rumore,	" 10.

2. State the form of the verb and the reason for using the form:

(a) peterent, sentence	3.
(b) facere,	" 4.
(c) laudari,	" 5.
(d) esset,	" 6.
(e) obtinere,	" 8.

Printed copies of the tests were given out on the same days to the four classes — Freshman, Sophomore, Junior, and Senior (785 pupils) in seven schools, in as many cities numbered consecutively from I to VII.¹ The time required by the pupils to complete each test was recorded. We found that ten minutes was ample time for each vocabulary; and that the translation and grammar test together required from thirty to forty minutes. Our experience suggests that in further studies the average time required for each test be the time allowed the pupils, and that the results be computed on this basis.

¹ Only the pupils in six schools (358 in number) are included in our results. The returns from one of the largest schools were received too late to be used in working out the correlations.

GRADING THE RESULTS

To obtain an objective standard for grading the results of the tests we proceeded as follows:

(a) *Vocabulary.* We assumed that all the words of the vocabulary chosen were of equal difficulty. Naturally this assumption should be tested by experiment, and some experiments were undertaken for this purpose, as follows: If the words are not of equal difficulty, and on the hypothesis that the difficulty of a word varies inversely with the frequency of its occurrence, the weight assigned to each word of the four vocabularies of fifty words each is shown in Table II. In this table the key letters *a, b, c, d, e, f, g, h*, represent the weight given to each word, that is to say, words used 1000 times are assumed in the table to represent unit difficulty; hence, words used 500 times represent a difficulty of two units, etc. Further, particles used 100 to 200 times or more are called equal in difficulty to other words used 400 times.

On this basis the four vocabularies have the following weights: 141 units, 163.5 units, 165.82 units, 171 units, respectively. But the work has not yet been carried far enough to test the validity of this weighting; and, in the results tabulated, we have assumed, as has been stated, that all the words in the four vocabularies are of equal difficulty.

TABLE II

<i>a</i> ,	words	used	1000 times
<i>b</i> ,	"	"	500 times
<i>c</i> ,	"	"	400 times
<i>d</i> ,	"	"	300 times
<i>e</i> ,	"	"	200 times
<i>f</i> ,	"	"	100 times
<i>g</i> ,	particles	"	100-500 times (prepositions, conjunctions)
<i>h</i> ,	"	"	100-200 times (adverbs, adjectives)

(*b*) *Translation.* So far as I know, no attempts have yet been made to secure approximately objective standards for grading Latin translations. After several provisional attempts to grade the various elements in a Latin sentence, we finally decided to grade only accuracy in rendering into English the ideas contained in the Latin sentences; and after some experiments to determine the difference between the grades attained by the pupils, when graded on the basis of all the elements of the sentence, and when graded by the simpler method which was finally adopted, we chose the simpler method because the grades arrived at by the two methods were nearly identical. This simpler method consists in grading each idea in the sentence, as a whole, as of unit value. If the idea is correctly translated, full credit is given; if it is not correctly translated, no credit is given for that unit. The basis of each idea in a sentence is the verb. The sentences used in the test contain twenty verbs;

hence each verbal clause if correctly translated is valued for convenience at five points ($20 \times 5 = 100$).

(c) *Grammar*. On the assumption that the grammar questions are equal in difficulty ten credits were assigned to each question.

TABLE III

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>Total</i>
Vocab. I.....	12	12	6	3	6	3	5	3	50
II.....	12	12	3	3	6	6	6	2	50
III.....	6	12	3	4	7	10	5	3	50
IV.....	6	10	1	6	8	10	6	3	50

Words used 1000 times equal one unit					
"	"	400	"	"	2.5 units
"	"	300	"	"	3.33 "
"	"	200	"	"	5.00 "
"	"	100	"	"	10.00 "

The results of the tests, all reduced to a percentage basis, are given in Table IV. The terms used in the table explain themselves, with the possible exception of "25q" and "75q." Of these, 25q means the upper limit of the lowest quarter of the class, and 75q means the lower limit of the highest quarter. Hence it is evident that these measures indicate that one quarter of the class had a grade of 25q or below, one quarter 75q or above, and that half the class had grades between 25q and 75q.

It goes almost without saying that the percentages given in Table IV cannot be used in a compari-

son of the schools with each other, because of the different conditions in different schools. Table IV can be used, however, to compare the achievements of classes of the same grade in the same schools in successive years.

But the chief purpose of this study would not thereby be attained, namely, measuring the growth in power in the Latin language of individual pupils. For this purpose the individual records of the children obtained this year must be compared with their records at about the same time in successive years; and the way has been prepared for such comparisons.

CORRELATIONS

Correlation sheets showing the correlation of the grades in the three tests, vocabulary, translation, and grammar, were prepared (1) for each school separately; and (2) for the schools combined, so far as the returns were available at the time when the work was done. Since the returns from one of the largest schools were not ready at that time, this summary pertains to only 358 pupils. The correlation sheets show that 52 per cent of the pupils fall in the same third of their respective classes, in both grammar and translation, and also in both vocabulary and translation. We find also that one third of the entire number fall in the same third of the class (the same tertile) in all three subjects.

TABLE IV

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School	No. in class	Vocabulary					Translation					Grammar				
		Average	Median	Mode	25q	75q	Average	Median	Mode	25q	75q	Average	Median	Mode	25q	75q
Senior																
1.....	19	86.5	87.5	90	84	90	76.3	80	80	65	85	86.6	85	85	80	95
2.....	9	93	94.5	97	88.5	97	68.3	75	85	45	85	84	85	90	90	80
4.....	9	91.2	90.5	96	88	95	81.9	80	85	75	90	82.2	80	85	75	90
5.....	15	91.2	92	..	88	94.5	86.8	90	95	75	95	87.8	90	..	85	95
6.....	18	93.6	96.5	96.5	95	98	94.7	95	95	95	100	95.9	99	100	90	100
7.....	56	88	90	91	86.5	92	84.2	85	85	75	90	82.4	85	90	75	95
Junior																
1.....	15	79.5	78	77.5	75	84	72.7	75	75-80	65	80	81.7	85	85	70	90
2.....	5	91	91	..	88.5	94	72.5	70	..	60	80	94	95	95-100	90	100
4.....	11	90.9	91.5	..	84.5	96	90.8	95	95	90	95	94.5	100	100	95	100
5.....	24	87.2	88	89	82.5	91.5	83.1	90	90	75	90	84.8	90	70-95	75	95
5.....	28	93.2	95	95	90	97.5	94.1	95	95	90	100	91.9	95	90	90	95
7.....	73	84.3	86.5	..	79.5	91.5	79.3	80	80	65	85	73.7	85	90	70	90
Sophomore																
1.....	27	74.7	74+	..	70	81	59.2	60	50-60	50	70	80	80	80-85	75	85
2.....	16	60	59.5	60	51	69.5	37.2	30	30	15	60	58	80	90	25	90
4.....	23	87.7	87	..	84	93	80.4	75	75	70	90	87.4	90	100	80	100
5.....	35	76.5	78	74	72.5	84.5	77.1	80	80	70	90	75.9	75	75	65	90
5.....	34	88.4	88	87.5	85.5	92	84.7	90	90	80	95	86.6	90	90	80	15
7.....	165	80.9	62.5	..	51	71.5	62.8	55	55	40	70	54.5	65	70	50	75
Freshman																
5.....	52	51.7	61	59	55.5	66.5	45.7	45	45-60	35	50	59.2	60	55-85	45	75
6.....	28	80.3	81	84	76	84.5	77.7	60	90	65	90	87.1	90	90	80	90
7.....	117	38.9	40	..	33.5	47.5	34.8	25	20	13	40	28	35	85	20	45

Perfect correlation, as the expression is used in this paper, would require that the same individuals who were in the first tertile in grammar should also be in the first tertile of the class in both translation and vocabulary; in the same way, the individuals who make up the second and third tertiles in any one subject must be the same who are included in the corresponding tertiles in the other two subjects. Also perfect correlation in any two of these subjects of course means for any pupil that he is in the same tertile in both of them.

Arranging the correlations found in tabular form we have:

TABLE V

I. PERFECT CORRELATION IN ALL THREE SUBJECTS

Out of 358 pupils	{	52 were in the first third of the class in all three subjects.
		20 were in the second third in all three subjects.
		41 were in the third third in all three subjects.
		113, or <i>almost one third</i> , of the class show perfect correlation.

II. PERFECT CORRELATION IN GRAMMAR AND TRANSLATION

Out of 358 pupils	{	78 were in the first third of the class in grammar and translation.
		45 were in the second third.
		65 were in the third third.
		188, or 52.5 per cent, show perfect correlation in these two subjects.

III. PERFECT CORRELATION IN VOCABULARY AND TRANSLATION

Out of 358 pupils	{	77 were in the first third of the class in vocabulary and translation.
		46 were in the second third.
		66 were in the third third.
		189, or 52.8 per cent, show perfect correlation in these two subjects.

IV. PERFECT CORRELATION IN VOCABULARY AND GRAMMAR

Out of 358 pupils	{	64 were in the first third of the class in vocabulary and grammar.
		44 were in the second third.
		63 were in the third third.
		171, or 47 per cent, show perfect correlation in these two subjects.

GENERAL SUMMARY

1. The purpose of the foregoing study is to measure the growth of power in Latin, and to discover the correlations of this power in three phases of language-study — vocabulary, translation, and grammar.

2. For this purpose a test in vocabulary, translation, and grammar has been devised, to be applied to the same pupils at about the same time in successive years. Further experiments with the vocabulary test are needed to determine whether a single list of fifty words is sufficient; and whether the words chosen are of approximately equal value.

3. The grading of the translation and grammar

results has been tested and has thus far justified itself; but further experiments with these tests are needed to reach a definite conclusion on this point.

4. Table IV may be used to determine the relative achievements of classes of the same grade in the same schools in successive years.

5. But the chief purpose of the tests will be achieved only by comparing the records made by individual pupils in successive years.

6. The correlations of the grades of individual pupils must be studied to diagnose individual aptitudes and deficiencies. The bearing of such diagnoses on teaching is obvious.

7. The correlation study covers, as yet, so small a number of cases that generalizations as to the relative emphasis the three fundamentals of language acquisition demand for satisfactory growth would be premature; but further study should throw light on this question.

8. The whole study is a first attempt in a new field; is confessedly tentative; and the conclusions arrived at are wholly provisional.

VII

HOW FAR SHALL THE STATE GO?

THE following argument is commonplace enough. But the significance of the commonplace is often overlooked. I have therefore ventured to base my argument for the hearty and enthusiastic support of the University's Graduate School on certain familiar principles which underlie our whole social fabric, and here they are.

The stability and progress of a democratic society depend on the prevalence of intelligence, character, and progressive well-being among its members, and on the predominance of superior men among its public servants and leaders of public opinion. These safeguards of society, it is admitted, are chiefly dependent on education.

The most cherished, as well as the most comprehensive, prerogative of an individual in a democratic society is the right of opportunity — the right to make the most of native endowment and to achieve material prosperity, culture, and social elevation, through persistent industry — no matter how humble his parentage or how narrow his circumstances in early life. But this right would be fruitless without its natural correlative, the habit of independent

initiative. The preservation of this right and the cultivation of the corresponding habit depend, once more, on education.

Hence, to guard and promote its own interests and, at the same time, the interests of every individual, a democratic society should provide accessible and appropriate educational opportunities for all its members, on precisely the same terms; that is, to insure the appropriate cultivation of every grade of ability and the discovery and development of superiority, wherever found, and to guard against the possible monopoly of education by the wealthy and socially superior classes, it makes education of every grade *free*; and in order to guard against the blindness of ignorance, it makes education, up to a certain point, *compulsory*.

Hence, also, a democratic society welcomes the provisions of private enterprise or private generosity for education; it regards with favor all private and endowed educational institutions, as such, and gives them free play beside its own.

The progressive recognition of the truth of these principles has led to our systems of local free schools of various grades and kinds — elementary, secondary, and vocational — and to our virtually free State normal schools, State universities, and agricultural colleges; and the longer we carry on our provision for education in accordance with these principles,

and the wiser that education becomes, the more we rejoice in all they have brought into American life, and all that they promise for the future.

The child in the free public elementary school enters into his inheritance of enlightenment, self-mastery, and participation in all the worthy interests of life; that the ambitious pupil may be equipped to overcome the inevitable difficulties that stand in the way of his material and spiritual advancement, the free public high school beckons him from afar, gives him clearer insight into life's opportunities, duties and privileges, and carries forward the development of his powers, through the broader and deeper culture which it affords. Then the free State university opens its doors to round out his educational career. It offers to every able youth "a liberal education," and in its graduate school and other professional schools offers him specific preparation for the particular vocation which his tastes and aptitudes and his previous training lead him to choose. Through these professional schools the State sets the standard of professional efficiency which the people demand; and at the same time affords the opportunity to every able and worthy youth to fit himself for a professional career.

Among the professional schools the graduate school of arts and sciences occupies a unique position. It is not only a professional school of the

highest grade — a school for training teachers for all the higher posts in the teaching profession — principalships, superintendencies, and college and university professorships — but it is the place where research flourishes; where thinkers and investigators seek to extend the boundaries of human knowledge. It is the great conserving and disseminating force of pure idealism in the pursuit of knowledge for knowledge's sake, no matter whether it can be made to yield immediate practical returns or not. It is thus at the same time the ultimate source of the university's intellectual life, and the guarantee of perennial freshness and vigor in its work. Without the stimulus of a body of highly trained minds among students and professors whose time is given largely to research, and to the publication of valuable results, the teaching body ceases to be productive in the field of scholarship; the institution tends to become dead at the top; it can never be an institution of the first rank. At most it is likely to achieve only a second place, to be content with being only "a first-rate second-class" institution. The State loses the advantage of training its own best minds and of holding in its service the highest grade of university teachers, because its finest minds and its best teachers will seek the instruction they demand, and the opportunity they crave, and ultimately secure, elsewhere.

Now, where in this ascending scale of education shall the State say to an able, industrious and ambitious youth, "Thus far shalt thou go, and no farther"? The glory of our social structure, the safeguard of its stability and progress is, as was pointed out at the start, that able and industrious youth of every degree of material or social advantage or disadvantage may, by the education freely offered to all of them, attain the highest development and the most adequate equipment accessible to any of them for private usefulness and public service.

It thus appears that the only natural limit of an able youth's education in a democratic society is the highest educational opportunity that society has provided — the graduate school of the university. Further, the graduate school is, as has been said, a professional school of the highest grade, a professional school as important in its field of work as the schools of agriculture, engineering, law, medicine, pharmacy, and the rest are in theirs, and these the policy of the State justly includes in its educational scheme. Hence we are satisfied only when the State recognizes the justice, consistency, and practical wisdom of maintaining the graduate school of its university as a necessary and integral part of its provision for higher education, and does all it can to promote its development.

VIII

THE GERMAN EXAMPLE

THE *Advertiser* commends the heroism and self-sacrifice of the German people in the present war, as if such heroism and self-sacrifice were a peculiar manifestation of the German people. They are equally apparent among the other nations now fighting the Teutonic allies.

I am unable to accept the view that these manifestations of a patriotism in war-time may serve as an example of national unity for the United States. Germany prepared for and precipitated the present war for domination; not for national life. To be sure, many of the Germans have been led to believe that they were forced by their enemies to fight — that they are fighting a defensive war; and because of that belief are willing to make any sacrifice for ultimate victory. Many others, now that the war is on, are ready to sacrifice all they possess and to lay down their lives in the hope of saving their country, whether right or wrong, from the humiliation of defeat. As already intimated, this kind of patriotism will always be shown in abundance by both sides in every war.

But “Deutschland Über Alles” has a sinister

meaning when interpreted in the light of the causes of the present war, and of Germany's conduct since the war began. When I think of Germany's deliberate preparations for a war of conquest under the pretense of insuring the country against foreign aggression, and her atrocious methods of carrying on the present war, I am forced to the conclusion that a people able to approve, and even to exult in Germany's policy and methods, is not a people to hold up to the admiration of the people of the United States; and in saying this I am not unmindful of those Germans who look with the same horror on their country's doings that is felt by the greater part of the thinking world — those Germans who are inarticulate because of the autocratic government that suppresses those who differ with its policy and methods, or employs other effectual means of rendering them comparatively or completely helpless.

No, the German people, with all their devotion to the Fatherland, now that the war is on, are not admirable; they are miserably unfortunate and desperately helpless. Unfortunate and helpless because they have accepted the gradual substitution of dependence on "the State" for independence of thought and action — because they have failed to achieve freedom to work out their own material and spiritual salvation under a government of their own making and subject to their control. And with this

loss they have suffered a fundamental moral deterioration. This deterioration is so complete that it justifies the belief that the German people as a whole cannot expect to win the moral respect of the thinking world for generations to come.

I have only regret, not unmixed with aversion, for the conduct which the German "State" has pursued. Why have so many Germans come to this country? Is it not largely because the citizens of the United States enjoy the freedom referred to above to a greater degree than the citizens of any other country? I am one of those thousands of American citizens of German birth who rejoice in the fact that, with all its faults, the United States furnishes the best example of liberty under law that the world has yet developed; and I am persuaded that my duty, like that of all other citizens of the United States, whatever the country of their birth, is to work increasingly toward the progressive realization of our highest political ideals. Such citizens can hardly fail to repudiate any sympathy or coöperation with those misguided American citizens of foreign birth who represent an organized propaganda for the diffusion of foreign sentiment, particularly German sentiment, in this country. At the present moment this divisive influence among our people can only tend to embarrass the Government in a time of stress.

I do not myself regard the so-called "hyphenated" Americans as dangerous because I doubt if there are enough of them to do real harm. There is, to be sure, some reason to believe that a small portion of American citizens of foreign birth or ancestry might be disloyal; but thus far the only citizens we think of as likely to be disloyal are Germans by birth or ancestry; that is, American citizens who have once been citizens of that nation whose patriotism you commend. Without belittling in the slightest degree the heroism or self-sacrifice which German citizens in Germany now manifest, I submit that some of our American citizens of German birth compel us to hold Germany up as a warning, and not as an example, to the people of the United States; and this warning should be all the more impressive because all suggestions of possible disloyalty among American citizens are restricted to German-Americans.

You will see from the foregoing that I do not share the *Advertiser's* view that we have something to learn from German patriotism — from Germany's "bravely heroic and patriotic people." On the contrary, the sooner and the more clearly we perceive the danger to democratic ideals and institutions of Germany's influence — the sooner we definitely repudiate her perverted morality — the better it will be for the future progress of all that we hold most dear.

Your reminder that our statesmen are often unmindful of their duties is timely. But I do not believe that "the petty graft of place and influence," which we often condemn in our own officials, and which we have it in our power to cure — which we are curing — is comparable in its harmful effect to the colossal graft of pan-Germanic domination by a ruthless aristocracy of birth, and its concomitant, an army that is the master and not the servant of the people.

Finally, I cannot refrain from saying that it seems to me the time has come when all right-thinking American citizens of German birth must refuse to be classified as German-Americans; for to be called German-American is coming to mean that the person so designated is suspected of being a disloyal citizen. American citizenship is a priceless thing; it must not be trifled with. We cannot tolerate a divided allegiance. An American citizen who cannot make it clear that his allegiance to his country is firm and unwavering must expect to be looked upon as unworthy, and in case of need to be dealt with accordingly.

IX

GERMAN SCHOOLS AND AMERICAN EDUCATION

STRICTLY speaking, there is no "German school system." Each German State has its own school system, just as each State of the United States has. There is, however, greater similarity in the aims, scope, and methods of elementary and higher education in the different German States than in the same grades of education in the States of our Union. With these facts in mind we may, for convenience, speak of a German school system.

This system as a whole is not adapted to the needs of a democratic country like ours. It is adapted to the social stratification of German society. In elementary and secondary schools it provides for two distinct kinds of education with no interrelations beyond the first three years, and even these interrelations are not common. These two kinds of education are education for the masses (elementary education) and education for the classes (secondary education). Elementary education is free; secondary is not. Elementary education corresponds in general to the education given in our elementary schools, grades one to eight inclusive, except that in

some respects it is not so good; as, for example, in manual training.

Elementary education is for the great majority of the population. Its aim is to mould docile subordinates for the social structure — subordinates of limited outlook on the world, and equally limited insight into its affairs. That is, the fundamental aim of elementary education is to keep the masses subordinate to the classes. It does this by carrying their intellectual education just far enough to teach them their dependence on the classes. No career is open to the elementary-school graduate. He must always be content with a wage-earning occupation, and his wages are small.

Secondary education is not free, as already stated. It corresponds in a general way to the education given in our public high schools, but in secondary schools of first rank it includes about two years of college work in addition to the work of our high schools. The aim of secondary-school education is to open to members of the fortunate classes any career they may wish to enter, and to restrict such careers to persons of these classes.

Children enter a secondary school at nine or ten years of age and remain there until they are fifteen to seventeen, and in secondary schools of first rank until they are eighteen to twenty-one years of age. Many if not most secondary schools, especially

secondary schools of first rank, have an elementary department covering the first three years of school, and corresponding to the first three years of the elementary school (*Volksschule*), but tuition is charged as in the secondary school proper. Besides tuition fees required in secondary schools, the cost of the maintenance of a pupil is much higher than the cost of maintenance of a pupil in the elementary school, because pupils in secondary schools, especially in secondary schools of first rank, are nearly all of a higher social grade and children of the aristocracy. Such a secondary school would be impossible for the children of a street-car conductor, bookkeeper, or wage-earners generally, unless such children were fortunate enough to win one of the few State or municipal secondary-school scholarships. These scholarships are, of course, very few in proportion to the number of pupils who would like to secure and could profit by a secondary education.

I said above that there is no interrelation between elementary and secondary education after the first three years of school. This may be illustrated as follows: Suppose two boys enter elementary school at six years of age, and remain there until they are nine; and then that "A" continues in the elementary school, while "B" enters a secondary school of the first rank. "A" continues the elementary instruction already referred to, and com-

pletes it at fourteen. "B" immediately begins the study of Latin in a *Gymnasium* or a *Real-Gymnasium*, or of a modern language in an *Ober-Real-Schule*. "B" also pursues history, mathematics, language, and other studies in a way proper to an extended educational career. By the time he arrives at the age of fourteen, it is clear that his educational path has diverged widely from that of "A." It would be quite impossible for "A" to overtake him at the stage at which he has arrived.

This divergence of the educational opportunities of "A" and "B" is planned to conserve the social stratification. It is in marked contrast to our educational system, planned to promote social mobility. Ours is intended to enable any person to lift himself to any plane to which his ability, character, and industry entitle him to aspire, no matter how humble his birth or how limited his means. To that end education in the United States, both elementary and secondary, is free, and in most of the States higher or university education is also free — and complete articulation of elementary, secondary, and higher education is arrived at.

I have said that no career is open to the graduate of the elementary school in Germany. This is so true that, no matter how much an elementary-school graduate may distinguish himself as a common soldier in this horrible war, he can never rise above the

rank of subaltern. To become a lieutenant is for him impossible, and of course the higher grades of the military profession are absolutely closed to him. Inasmuch as entrance to all professions — indeed to all careers — depends in Germany on a general education followed by a proper vocational education, and inasmuch as the general education required for entrance on vocational education leading to a career is closed to the poor and lowly, it will be seen that the German school system, as a system, is wholly inapplicable to a democracy like ours.

Besides elementary and secondary education the German school system provides elementary vocational education for the masses; that is, for the graduates of elementary schools; but this vocational education is intended to make them more efficient on the plane within their social stratum. It is carefully planned so that it shall not enable them to rise to a higher plane. No matter how skillful and intelligent an artisan becomes, he remains, save in very rare instances, a subordinate in the body politic, his "stand" (station in life) having been determined in his early youth.

Within the school system much thorough work is done on each plane; but I need hardly repeat that it is not the intention to make access to a career easy and natural through education, as in the United States. In the United States it is our intention to

afford equal educational opportunities to all, to place no artificial obstacles in the way of their social, economic, or political elevation, such elevation to follow naturally on proved capacity to render the service required.

The methods of teaching in elementary education are not intended to develop initiative and dependence, and do not develop these fundamental characteristics of free men. The discipline is authoritative, and not infrequently harsh. In both instruction and discipline children are subject to external direction and guidance only. Habitual obedience to authority is the aim in both, not, as in our schools growth in self-reliance and self-direction.

I repeat, the effect of the educational system of Germany is to train the masses to be docile subordinates, and intellectually to train them only to the point where they recognize their dependence on the classes. Their condition is not unlike that of the slaves in slavery times in the United States, with the exception just mentioned, namely, that while the slaves had no adequate conception of their dependence on their masters, the German masses are trained to a full understanding of their dependence on the classes.

X

GERMANY'S KULTUR

THE masses of the German people are densely ignorant. It is a mistake to suppose that the German people as a whole are an intelligent people. They are not. The masses of the German people are stolid, doltish; and they are kept in that condition in the interests of a relatively small, selfish, governing class.

German society is stratified socially. There are the masses and the classes. There are a number of grades in the classes, but there are really no grades among the masses. Whatever is done for the bulk of the German people is done in the interest, not of those people, but of the classes. Dependence of the masses on the classes — on the State — is systematically cultivated by the German social and educational system.

The result is a paralysis of independence in thought and action among the great majority of the German people that not only permits the exploitation of the masses by the classes, but prevents them from attaining any other conception of society than the society they were reared in. A natural corollary is abject subservience to the superior

intelligence and the authoritative control of the classes.

Of course, the classes look after the physical welfare of their dependents. The masses are paid living wages — that is, wages or salaries, just large enough to maintain them in their humble station and to restrict them to it; and they are provided for when disabled by sickness or old age. But all this is done for them by their official superiors. The mental and “moral” welfare of the masses, as conceived by the classes, is similarly safeguarded by the classes — once more, in the interest of the classes — by the public-school system.

A good many people have visited Germany and afterwards have written about the German school system. I cannot help believing that many of them don't know the German language well enough to understand fully what they hear and see. Above all, they don't catch the spirit of what is transpiring. Let me give you an illustration or two.

I once attended a class in Halle, and I learned in the course of the lesson that a German, by the name of Gauss, had invented the electric telegraph.

After the lesson was over, I said to the teacher: “At home we are in the habit of attributing the invention of telegraphy to an American by the name of Morse.”

“Oh, no,” he said, “Gauss was the inventor.”

"But," I said, "how does it happen that your Government bestowed honors on Morse for his invention?"

"Oh," said the teacher, "Morse might have made some practical applications of telegraphy, but Gauss invented it."

Not long after that I was attending a lesson elsewhere, and I learned that a German had invented the steamboat — in the seventeenth century, too, a time which happens to be prior to the invention of the steam engine. I called the teacher's attention to the fact of the steamboat's having been invented by Fulton, an American.

"No," he said, "you are wrong. It was invented by a German."

"But," I said, "the steam engine was n't invented as a practical machine until the eighteenth century."

"Oh, no," said the teacher, "it was invented long before."

In both the cases cited the teacher's decision was authoritative and final. If I had been a German I would have been convinced!

One more illustration pertaining to German secondary schools. The secondary schools of the first rank — that is, *Gymnasien*, *Real-Gymnasien*, and *Ober-Real-Schulen* — teach children from nine or ten to eighteen or nineteen years of age; and all

the teachers in those schools are university men. They do not necessarily hold the doctor's degree, but they are all trained at a university; and many of them are German reserve officers.

I wanted to visit a girls' *Gymnasium*, a public *Gymnasium* for girls in Prussia, in Breslau, a city not far from where I was born. It was to be the first public *Gymnasium* for girls in Germany. I will have something more to say about this proposed girls' *Gymnasium* later on.

At this point I want to tell you something about the typical Prussian official when he thinks he is dealing with a mere civilian or subordinate without governmental influence.

In Breslau an old-line *Gymnasium* and a so-called *Reform Gymnasium* were carried on side by side in the same institution, and I wanted to see how the reform *Gymnasium* prospered. I arrived at the schoolhouse a little before eight in the morning. (School begins in Germany at eight in the winter and seven in the summer.) In the hall stood a big, rather fine-looking fellow, who I knew at once must be the principal. As he paid no attention to me, I paid none to him. By the way, to be admitted to Prussian secondary schools as a visitor, one must have permission from the Minister of Instruction in Berlin. One must specify, too, the schools which one wishes to visit. Permission to visit the

elementary schools is obtainable from local authorities.

I had my permission and other credentials in my pocket. A bell rang and the school settled down. The principal went into his office at the end of a long hall. I followed him. On the door was written, "Consultation Hours — 11-12."

I knocked at the door. No response. I knocked somewhat more insistently. No response. I knocked a third time. The door opened.

"What do you want?" he asked, gruffly.

I handed him my papers. I said that I would not disturb him at that hour had I known that his consultation hour came in the middle of the day; that I was a stranger; my time was limited, etc. He turned and went toward his desk; I followed. He looked around and said, "Shut the door." To this I made no reply.

He sat down at his desk and said, "Why don't you shut the door?" I said, "Won't you look at my credentials?"

Then he looked at my papers. His manner had thus far been arrogant, and repellent, even insolent. He looked up from the papers and with a complete change of manner, said, "Why, Professor, how can I be of service?"

This illustrates a distinguishing characteristic of official Germany. If that man had known when I

appeared that I was a university professor, his attitude would have been quite different. As soon as he knew that I was in a position to report him for discourtesy, he was so eager to give me all the information I wanted that he became almost subservient.

It so happened that I wanted to see his *Gymnasium* first. We had to cross the court; the day was cold. He jumped up and helped me on with my overcoat; he was most solicitous for my comfort. On the way to the *Gymnasium* he said, very gently, "Professor, will you please tell me why you would n't shut the door?" I said, "My dear sir, I am an American." From that time he stopped posing, and became almost human.

As I have intimated, these illustrations of the characteristics of Germans in authority are typical; although few rectors (principals) would be as uncivil as the one I have been talking about. An arrogant assumption of superiority has been systematically bred in the upper-class German for forty years, ever since the Franco-Prussian War. Moreover, one dominant notion has been inculcated in all classes of Germans; namely, the notion that the only people in the world worth considering are the Germans. Other people who in any way interfere with the aggrandizement of Germany must submit to Germany or be crushed.

The school system in Germany is planned to keep the masses of the people in dependence on the classes. There is no such thing as a German school system any more than there is a school system of the United States. Every State in Germany, as in the United States, has its own school system, but the school systems of the German States resemble each other much more closely than the school systems of the United States do, particularly in the upper branches of education.

Elementary education is provided by the *Volkschule* — the people's school — but not with any such meaning of the word "people" as with us. Elementary education is free in Germany, just as it is with us. But secondary and higher education in Germany are not free.

Moreover, there is no articulation whatever, after the third year of school, between what we usually call secondary education and elementary education. For example, the elementary school covers eight years (sometimes seven), from the pupil's sixth to his fourteenth year. The course of study consists of "religion"; the mother tongue; geography, primarily of Germany and of German colonies and dependencies; history, chiefly of Germany; arithmetic, with emphasis on facility in the fundamental operations; a little drawing; and little else. Reading, writing, and arithmetic constitute the main subject-

matter of the course. Manual training is found here and there. Nature-study is also found here and there. But the emphasis is on the school arts throughout.

The secondary school, which is the school for the classes, takes children at nine and carries them forward, in secondary schools of the first rank for nine years. Now, suppose two boys begin together in the elementary school, one of them destined for the secondary school, the other destined to complete his education at the end of the elementary school. Suppose they begin school at six years of age.

At nine one goes into the secondary school (a *Gymnasium*); the other remains in the elementary school. The one in the secondary school begins at once ten hours a week of Latin; a long career of mathematical study; the study of his mother tongue and of history in scope and subject-matter far beyond what is given in the elementary school. After three years the pupil in the secondary school begins Greek. A little later he begins a modern foreign language, either English or French.

By the time both boys are fourteen years old their educational careers have diverged to such an extent that there is no relation between them.

Secondary education is not free, although the elementary schools are. A tuition is charged — not less than twenty dollars a year. That is not high

from the American point of view; but in Germany it was so high, even before the war, that it was, in general, quite beyond the reach of the masses.

Most of these secondary schools have their own preparatory schools or *Vorschulen*. So the boy who is to go to a secondary school usually begins in the *Vorschule* and does not enter the elementary school at all.

No career is open to the graduate of an elementary school and no enlarging opportunities, beyond a small increase in his wages, as he grows older. He can become an elementary-school teacher if he can get into a normal school. But between graduating from the elementary school and admission to a normal school, there lies a course of training he must pay for.

The discrimination between the elementary-school graduate and the secondary-school graduate is carried so far that no matter how much the graduate of the elementary school may distinguish himself in this war, he cannot rise above the rank of a subaltern. An "officer" must have the education of a member of the upper classes.

The segregation of social classes is as complete as possible. Every career within the State or in civil life is open to the graduate of a secondary school of the first grade. He may study law, or any other profession, he may enter the government serv-

ice, he may go into the army — nothing stands in the way of his advancement. That is to say, the attainment of class distinction and access to all the careers which German society affords are possible for the masses only through secondary education; and since this education is made for them difficult or impossible of access, very few who are born of the masses are able to improve their social status, no matter how able or industrious they are.

There are secondary-school scholarships which cover the tuition charges, but these scholarships are few in number. The result is that the percentage of the German people that attain anything like a high-school education is small, so small that it is in marked contrast with the corresponding percentage of our population. And this is done for the reason, already stated, that the authoritative and paternalistic form of German society and of German government may be preserved. As I have already said in the preceding chapter, the masses of the German people are precisely in the state of our slaves during the time of slavery in this country, except that they understand their dependence on the classes as the slaves could not, because the Germans have seen to it that the masses are trained just far enough to understand that dependence, but not farther.

Now, need I assert that a system of education

with such motives, however efficient in execution — for it is efficient as a machine — is repugnant to every humane and democratic sentiment that we Americans value most?

Let me give you one or two illustrations of German school “discipline,” at its worst. This discipline is always authoritative to the last degree — instead of seeking to develop self-reliance and self-direction, it aims at enforcing habitual obedience to external authority.

I once visited a class in geography in an elementary school. The lesson happened to be on Russia. The teacher, of a class of fifty boys, had a long bamboo stick which he waved aggressively. He stood near a map. A boy asked was to name and point out on the map important cities of Russia. The boy was so terrified and confused when I entered the room that he was unable to follow the teacher’s directions; he failed to distinguish north from south, and moved his hand about on the map helplessly in accordance with what he thought the teacher demanded. The boy was not stupid, but he was terrified by the bullying teacher.

The German in authority is frequently a bully. I have seen him in the university as well as in the elementary school. It was in Giessen — where a celebrated professor was lecturing. He was also the head of a *Gymnasium*, and was carrying on a

"*Seminar*" for secondary-school teachers in his *Gymnasium*. The professor's way of receiving what his seminary students — all university men — said was to grunt in what seemed to me a peculiarly offensive manner or to shout an acrimonious "No!"

He further allowed himself to use abusive epithets — he called one man a fool, for example; and another he ridiculed as the one member of the class whose replies to questions or written expositions showed a peculiar genius for blundering. In the midst of one of his tirades he turned fiercely on his class and said, pointing to me: "What an exhibition before this American gentleman! What must he think!"

Now, what I thought was, "What a bully he is; and how contemptible his exhibition of petty tyranny!" Of course, all German university professors are not like this one. But my illustrations show the sort of creature the German teacher may become under a system that gives him authority and requires him to enforce obedience, or submission to authority, as an end in itself.

How can the German people support a Government which is managing them against their own interests? The answer is easy. They have been taught that the Government is managing their affairs in their interests, and doing it much better than

they can do it themselves. Educated just to the point at which they recognize their dependence on the State and no farther, they feel their helplessness in all the relations of life. Hence submission to class control is the only thinkable condition of social existence.

The educated German is of the ruling class. He is not of the masses. Now and then the secondary-school scholarship enables an able poor boy to get an education. But these scholarships are so few that most of the men who get them are subsequently assimilated to the classes. The masses, as such, have few leaders, and under prevailing conditions must have few. In other words, Germany is a land of no opportunity except for the privileged classes. It is a land where education is intended to preserve for the privileged classes all the privileges they now have and to prevent the masses from reaching the status of the classes.

Let me give you one more illustration. The German school system is so highly centralized that permission to establish a public secondary school must be obtained from the Central Government. In 1898 the city of Breslau, in southeastern Prussia, wished to establish a public *Gymnasium* for girls, and during the preceding year had secured from Berlin the necessary permission to go on with the project. But later the people of Breslau had incurred

the Emperor's displeasure and just before the time set for opening the school word was received from Berlin that the minister's permission to establish the school had been revoked. I happened to be in Breslau just after this occurrence and was told by a retired business man of Breslau — that the Emperor had taken this way to discipline the Breslau people. (By the way, there were in Germany seven hundred trials for *lèse majesté* in the year 1897-98 — nearly two a day.)

I must not omit some consideration of the German continuation-school system. The central idea of the continuation school is excellent. It carries on the young worker's education after he goes to work, and his employer is required to give the employee so many hours a week to attend the school. But the German continuation school is intended to improve the worker on his original plane — not to enable him to rise above it.

It helps him to become a better barber, or baker, or watchmaker, and so on. Some years ago they had nearly fifty kinds of continuation schools in the city of Munich, and every youth who had had only an elementary-school education was obliged to attend a continuation school six to ten hours a week, at times when he could best be spared from his work.

For every occupation there ought to be a satis-

factory general education followed by a satisfactory vocational education in the continuation school as well as in the shop or industry. That is a good principle; but in Germany it is so applied as to keep the masses dependent on the classes and so far as possible to make them understand their dependence — and they know they are dependent. They don't know what to do any more than children know what to do. They lack leaders, intelligent leaders; they lack insight and outlook. The result is that they are helpless. They are taught from youth up to look to authority, to direction; that is not only inculcated by precept, but it is enforced.

The sum and substance of it all is this: The elementary school of Germany is intended to train a predestined subordinate — and that subordinate is the mass of the people. Secondary and higher schools are for the relatively small socially superior and directing class who manage the German State in their own interest. They do that with extraordinary thoroughness. Germany offers the best illustration that I know in modern times of how a persistent purpose in education — and, in this instance, a bad one — can be realized.

XI

THE GRADUATE SCHOOL OF EDUCATION OF HARVARD UNIVERSITY¹

DURING the past thirty years the conception of what it means to be a teacher has been greatly enriched. It has always been known that the work of the teacher is important; that the most important factor in a good school is the teacher; that unless the teacher is scholarly, enthusiastic, and devoted to his work, the school cannot be a good school. It has always been known that relatively few teachers are born teachers, just as relatively few workers in any field of human endeavor are born to their work, and that most of the world's successful work is done by persons who have made the most of their native endowment, whatever it is, by careful study under skilled direction.

But it is only within a generation that college and university men have largely abandoned the false view that scholarship — that is, the mastery of knowledge — and the will to teach of themselves guarantee good teaching; and this in spite of the fact

¹ The funds needed to establish this school were assured to the University early this year (1920), and the founding of the school was celebrated on February 17.

that experience had repeatedly shown this view to be false. The academic mind is tenacious. But the academic mind is also reasonable. When the complexity and difficulty of the teacher's work were clearly set forth as they have been often during the last thirty years — when it was shown that the processes of learning must be studied to be understood, and that the correlative art of teaching can be most effective only in the light of that understanding — college and university men could see that scholarship and the ability to use scholarship for the guidance and inspiration of learners are in truth two very different things; that, in general, insight into the problems of teaching and skill in dealing with those problems can only be developed by persistent effort, under the best guidance that can be secured.

Meanwhile many parents did not need to be convinced, by the advocates of training for teachers, of the fact that their children were not well taught because the teachers had not learned how to teach; and many principals and superintendents were insistent in their demands that college graduates should not only know their specialties, but that they should know how to teach them; and what is equally important, that they should come to their classrooms with a developed professional attitude — with the insight, outlook, interest, and incipient skill that only the trained teacher can possess.

Meanwhile, also, it had become clear to teachers and to the lay public alike that schools and school systems must have professional guidance — leadership — in order to plan them wisely and carry them on efficiently. The growing diversity and complexity of modern life must be perennially analyzed and our educational procedure as a whole subject to corresponding analysis and scrutiny if the educational opportunities we provide are to be kept abreast of our educational needs. Moreover, the average professional life of teachers is very short; each year sees an influx of neophytes who are largely untrained for their work. These beginners need the immediate help of principals and superintendents to enable them to become good teachers (so far as their capacities permit) as soon as possible; and without the random experimentation (discouraging and often disastrous to teachers and pupils alike) that is inevitable without wise guidance. All this requires well-trained educational leaders — principals and superintendents of good education and adequate technical training, and college teachers of education, whose broad outlook and trained insight enable them to plan schools and school systems so as to make the education we provide in those schools and school systems the powerful force for individual development and social service we now conceive it to be.

And so it happens that to-day colleges and universities throughout the country are increasingly devoting time, thought, and money to the study of education in all its phases. This study acquired a permanent footing in the University of Michigan in 1879. At that university a professorship of the Science and Art of Teaching was established in the year named. In a few years it was seen that no one man could adequately cover the field. Other professorships were established there, and soon also in all the State universities; and before long in two of the most important endowed universities of the country.

But even the establishment of professorships for the study of different phases of education was seen to be an inadequate means of accomplishing the end sought. The courses given by these professors needed to be organized and unified in order to accomplish more adequately the purposes for which they were established. Hence arose the university Schools of Education, which are now widely established throughout the country. They represent a development in the field of education akin to the development of university Schools of Law, Medicine, and Engineering, in their respective fields.¹

¹ The first schools for the study of education to be established in this country were the normal schools, and the first State normal school was founded by Massachusetts in 1839. Every State

A professorship of the History and Art of Teaching was established at Harvard University in 1891. It was the first chair of its kind in an important endowed college or university; and for several years, in number of graduate students and in general influence, the new department led its competitors.

Although Harvard University was the first of the endowed universities to appoint a Professor of Education, Harvard has failed, chiefly through lack of funds, to keep pace with other universities in this new field of service. Naturally, the members of the Department of Education at Harvard were keenly aware of this situation. The officers of the University recognized the importance and the urgency of strengthening the Department of Education, and in 1906 that Department became the Division of Education of the Faculty of Arts and Sciences. But the lack of funds continued; and although the staff of the Division has grown substantially since the Division was established, the University could not develop the Division into a School of Education.

Quite recently, however, Harvard's opportunity in the Union now maintains at least one normal school, and many of them have several. In general, the normal-school students are, at most, high-school graduates, and hence very few of the normal schools attract or attempt to train college-bred teachers. The special field of the normal schools is the training of elementary-school teachers, and in this field they have rendered and are rendering an indispensable service to the country.

has come. On the application of the Corporation to the General Education Board, that Board appropriated half a million dollars toward a fund of two millions for the endowment of the School of Education, which the Division has so long desired. To the sum appropriated by the General Education Board, the Corporation agreed to add half a million dollars; so that half the sum needed was assured before June of the present year (1919). The organization of a campaign for securing the remainder of the fund, which had been planned so as not to interfere with the larger endowment fund campaign for the entire University, was under way by June last; and some subscriptions from individuals had been received before the end of the college year. About that time, however, the two campaigns were merged. The endowment fund campaign raised its total to eleven million dollars (it had been ten millions) and the School of Education fund campaign, as a separate undertaking, was abandoned.¹

This brief article is not written in order to stimulate givers to the fund. But the writer believes that all who wish to see Harvard University take its proper place among the important institutions of the country for the professional study of the coun-

¹ When this article was written (during the summer of 1919) the sum to be raised by the endowment fund campaign was not set at the figure it has since assumed.

try's greatest permanent interest will be glad to know that the endowment fund campaign includes a campaign for funds for the School of Education. The main purpose of this article is to outline briefly some fundamental phases of the service which our Graduate School of Education may be expected to render.

It was pointed out at the beginning of this article that without trained teachers we cannot expect to have good schools. We must have good schools if the oncoming generation is to be properly educated—if it is to be imbued with the ideals and develop the efficiency our democracy needs. Consequently, the first duty of our School of Education, as it has been of the Division of Education, will be to train teachers. It must, therefore, provide adequately for both theory and practice. The Division of Education now has an arrangement with the school systems of cities and towns in the vicinity of the University (unequaled by any institution for the training of teachers in the country) by which our students serve an apprenticeship in teaching in their schools under our direction. Our novitiates thus learn to teach under the conditions which actually prevail in the classroom. Our School of Education must plan to continue and extend this arrangement. The instruction which enables the students to organize their experience progressively as they go on accom-

panies and follows this apprentice teaching. A teacher so trained not only masters the technique of his art (the art of teaching and managing pupils), but this technique continues to be influenced by his thinking; his scholarship is drawn upon as occasion requires to inspire and to lead the pupil to definite accomplishment. Such a teacher leads the pupil to think and to work for himself; and thus to realize the joy of accomplishment.

But, as has been pointed out, educational endeavor — schools and school systems — must also be organized, administered, and supervised by trained leaders. An ambitious and successful teacher who aspires to be a supervisor, a principal, or a superintendent, has yet to learn both the principles and the practice of good administration and supervision. Without assimilating these principles, he is likely to be only a blind leader — and a leader he must be if he is to be a real principal or other supervisory officer. The Department of Education has emphasized in this vital phase of educational activity from the very beginning; and our School of Education must extend and strengthen this training of men and women who possess the resources required for leadership in education, both within and without their profession.

Harvard University is situated in the midst of a great industrial and commercial population. Its

responsibilities to this population it has not been able to meet adequately hitherto. Through the School of Business Administration it trains business executives and renders an important service to college graduates who go into or are already in business; but in training the teachers who must be relied on to train the great army of subordinate officers and workers in industry and commerce, Harvard has yet done very little. Trade schools and commercial schools are multiplying in response to the need of trained workers in industry and commerce, and the demand for trained principals and teachers who can do the work that these schools must do as it ought to be done is insistent and growing stronger every day. Our School of Education will endeavor to meet the demand for such teachers and principals.

The need of guidance for young people in the selection of their occupations has always been felt; and vocational advice has always been given by teachers in schools and colleges. But this guidance has not been systematic and continuous, nor has it been founded on actual information. It need hardly be said that for an ambitious and capable youth to go out into the world without a clearly conceived career motive, and without the preparation which that career demands, is a calamity. What is needed is guidance based on well-ascertained information about occupations and about the individuals who

are to enter them; and such guidance is a necessary concomitant of effective education for careers. The Division of Education has for several years maintained, through the generosity of friends (chiefly through the aid of one man), courses in vocational guidance for teachers and school officers; and two years ago the Division was able, again with the aid of friends outside the University (and especially of the chief giver), to take over the work of the Boston Vocation Bureau (the private philanthropy which had started the whole vocational-guidance movement in this country), and that Bureau became and is now the Bureau of Vocational Guidance of the Division of Education. The work the Bureau has done in giving courses in Vocational Guidance and in coöperation with the School of Business Administration, especially during the war, in Employment Management, has abundantly established its usefulness. The Bureau has no financial support whatever from the University. We must depend on the School of Education to carry forward the Bureau's important work of teaching, research, and publication.

Physical education, including education in play and recreation, acquired a fresh significance and increased importance during the war. While the Division has been able to offer instruction in this field through the generous help of one of its friends, the

work we have been able to do is only a fraction of what is needed. Our School of Education must do its share in training teachers and supervisors in this field.

Within the last dozen years a new means of promoting educational progress has been developed — the educational survey. An educational survey is a thoroughgoing examination of the aims, equipment, and achievements of schools, school systems, and colleges by competent specialists. The survey is a foe to complacency. It examines conventional aims and procedure with a view to ascertaining whether they are justified, whether they require modification, or whether they should be entirely abandoned. Some of the most important private and public schools and city school systems of the country, whole State school systems, and some of the most important colleges have in recent years been subject to surveys. Such surveys are likely to continue, though they will probably become more and more “auto-surveys”; that is, studies of their activities by representatives of their regular teaching staffs under the direction of their qualified supervisory officers. Indeed, such surveys must become the rule if more than a small minority of the reports which schools and school systems (and colleges) send out periodically are to have real value for the teaching profession and for the lay public. But to

plan and carry on such surveys requires a technical equipment which relatively few superintendents and principals of schools (to say nothing of other educational officers) now possess. The School of Education will seek to equip competent men and women to render this service to education, and it should also enable the officers of the School to do their full share of such work as opportunities offer.¹

College instructors are now almost invariably appointed on the basis of scholarship only. Most of them command their specialties, but they have not studied the broader interests of their profession nor have they studied the principles and practices of good teaching. Scholarship is a fundamental equipment of the college teacher, but scholarship alone does not guarantee good teaching in college any more than in school. Hence most college teachers tend to teach subjects instead of students by means of subjects. They must learn to teach, if they learn at all, by the wasteful method of undirected experimentation. Meanwhile the students

¹ Officers of the Division of Education have directed or participated in a number of educational surveys; and have had repeated invitations to do more of such work than they have had time for. A survey often involves research work of great value to the Professor of Education, and in any case serves to keep him intimately acquainted with the actual contemporary condition of the schools, as well as with their aspirations and very real practical difficulties.

and, incidentally, the subjects, suffer. Some college instructors already include some study of their profession in their preparation for their vocation. The example of such instructors is likely to be followed by an increasing number of prospective college teachers because the difference between teachers with technical training and teachers without it will become increasingly apparent to all. Hence we believe that a growing demand for technical training for college teachers is inevitable. Our School of Education must be ready to meet this demand as it develops.

Naturally, the growth of the demand for better teachers in schools and colleges has been accompanied by a demand for better normal-school teachers and for well-trained college teachers of education. The Division of Education, though inadequately staffed, has not failed to train such teachers. They, like principals and superintendents of schools, should be trained for leadership; and our School of Education must be fully equipped to render this fundamentally important service to the teaching profession.

Like all other undertakings, to be thoroughly responsive to the demands made upon it, education must be constantly subject to research. Educational research is no longer in its infancy, although its real development is of very recent date. Both

for the sake of the School of Education itself and for the interests which that School represents, educational research must be an important part of its work. It must have men in its staff who are competent and have the time to carry on educational research; and it must train students for research work in education.

The School of Education must endeavor to meet, also, a rapidly growing demand for help in a newly defined field. There is scarcely a week which does not bring to the officers of the Division of Education inquiries from parents concerning the kind or kinds of education their children ought to have, coupled with an earnest desire for more reliable (scientific, if possible) methods than are available to them of determining their children's actual educational needs. We hope that the School of Education will establish an educational clinic in which the present means of diagnosing individuals will be developed by intensive study. Such study must precede and accompany the safe application of such methods as are now available for the diagnosis of children's educational needs — whether the children are unusually able, mediocre, or dull.

A School of Education would be incomplete without a model school for the education of children. Such a school must have all the grades from the kindergarten through the secondary (high) school. It

must be in all respects as near a model as those who have it in charge can make it. It must have the best courses of study that can be planned. It must have the best equipment that can be secured. It must have the best teachers that can be obtained. It should exemplify in its work all that the School of Education stands for. It should, therefore, among other things, be a school which teachers may visit for inspiration and guidance wherever their own work may be. It must not be afraid to carry on well-regulated educational experiments. At the same time it must not fail to meet justifiable contemporary educational demands. It must establish coöperative relations with the parents of its pupils, who, as laymen, should be able to keep the School constantly abreast of thoughtful and progressive lay opinion in education.

Naturally this brief sketch has omitted all discussion of details. But enough has been said to give some idea of the general field of work which the School of Education plans to cultivate. Details of organization and administration; courses of study; teaching staff, site, buildings, libraries, laboratories and their equipment; the establishment of comprehensive coöperative relations with schools and school systems, and with industry and commerce; participation in educational associations; publications — all these and many others present problems

that press for solution. The officers of the Division of Education are studying these problems. They cherish no illusions concerning the task that lies before them. They know that the School of Education must study and work with all its strength to plan its work wisely and to carry it on effectively.

To-day, as never before, the people of this country are aware of the tremendously important rôle which education must play in the country's development. The range and difficulty of the problems of education have become clearly apparent, and the shortcomings of our contemporary education are widely recognized. To do its full share in training the leaders of the profession which assumes the great responsibility of educating the oncoming generation is the aim of the new School.

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